INSURANCE
NAT CAT

THE PILOT DASHBOARD ON INSURANCE PROTECTION GAP FOR NATURAL CATASTROPHES IN A NUTSHELL

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Table of Contents

EIOPA acknowledges the limitations of the pilot version of the dashboard, which was developed, based on publicly available data and expert judgement. The main goal of the pilot dashboard is to establish a framework for identifying key risk drivers for the protection gap for natural catastrophes and for collecting relevant evidence and data. The methodology for deriving the relevant scoring, as well as the existence of data gaps will be subject to review and will be updated based on further evidence and discussion in the future. Views from stakeholders on the methodology, data used in the dashboard are welcome until 31st of March using the EU survey. Questions on the dashboard are also welcome to be sent to protection_gap_dashboard@eiopa.europa.eu.

Introduction

1.1. In light of climate change, EIOPA is concerned that affordability and insurability of natural catastrophes (Nat Cat) insurance coverage is likely to become an increasing concern. Currently, only 35% of the total losses caused by extreme weather and climate-related events across Europe are insured (EIOPA, 2019). The uninsured part is therefore equal to 65% of the losses for climate-related events, which shows that there is a protection gap. Climate change will continue for many decades to come. Improved climate projections provide further evidence that future climate change will increase climate-related extremes (e.g. heat waves, heavy precipitation, droughts, flood, top wind speeds and storm surges…) in many European regions (EEA, 2017).

1.2. In order to address the protection gap, increasing the insurance penetration is not sufficient as due to the increasing frequency/intensity of some events, some risks might become uninsurable. Pro-active measures on buildings' vulnerability, localisation of exposure and optimised insurance coverages will be important elements of a resilient society.

1.3. It is therefore key to understand the current insurance protection gap and identify where it comes from. The main purpose of the dashboard is to monitor the risks related to the insurance protection gap for Nat Cat in Europe.

1.4. In addition, such a dashboard should also help to:

- Increase the awareness of the protection gap issues for all stakeholders.
- Promote a science-based approach to protection gap management and decision-making.
- Identify at-risk regions and identify the underlying protection gap risk drivers.
- Develop pro-active prevention measures based on a granular assessment of risk drivers.
- Identify the potential for synergies between national policies to improve protection against natural catastrophes across borders at European level.

1.5. The dashboard provides two views of the protection gap:

- a **historical protection gap**: based on historical data on economic and insured losses to understand the protection gap in the past. The historical losses will depend on the past hazards (past events), exposures, vulnerabilities[1] and insurance coverages (the three last parameters measured at the time of the event)[2];
- an **estimation of today's protection gap**: based on a modelling approach to have an estimation of today's protection gap. In order to estimate today's protection gap, the following information is required: hazard, vulnerability, exposure and insurance coverage at present time.

[1] Not many vulnerability data are available as open source data.
[2] See also: Technical description - Pilot dashboard on insurance protection gap for natural catastrophes.

1.6. The estimation of today's protection gap provides a more appropriate view of today's risk from a hazard perspective: only because an event has not occurred in that past does not mean it cannot or would not in the near future. In addition, the estimated protection gap also uses the latest information on exposure, vulnerability and insurance coverage available.

1.7. The different elements of the estimation of today's protection gap should provide additional information to address the protection gap by:

- Monitoring the exposure impacted by the hazard: one of the main reasons for the increase observed in Nat Cat losses is the growth in exposure. Dynamics such as increasing value of assets, new growth regions, people concentrating in high-hazard areas may contribute strongly to potential high Nat Cat losses. It is therefore important to monitor this exposure growth, get reliable data about the exposure and locate risk areas by using hazard maps. Decreasing the vulnerability should be a clear goal when addressing the protection gap. A number of resilience actions are possible, build back better, developing building codes, etc.
- Optimizing the Nat Cat insurance schemes within Europe.

Outcomes of the work done so far on the dashboard

1.8. The metrics used to quantify the protection gap are risk-based and follow a science-based approach by using available scientific data and, where not available, expert judgements[3].

1.9. The protection gaps vary significantly among Member States as well as among different perils (from some countries having a very high protection gap to some countries not having any issue with protection gap). When combining all EU countries together, the protection gap is low (for any type of peril). This can be explained in particular by geographical diversification (i.e. not all countries are impacted by the same perils).

1.10. The dashboard helps not only to identify regions, which have protection gap issues, but also to understand the root-cause of the protection gap. If a country's exposure to a given hazard is high, then it would be important, for example, that buildings have low vulnerabilities as well as a high insurance coverage.

1.11. Decomposing the different elements of the dashboard provides a view on the vulnerability and exposure to each hazard component. These elements should help to identify prevention measures for different perils/regions to reduce the future potential losses. Indeed, having a view on the vulnerability helps to identify

[3] See also the „Technical description - Pilot dashboard on insurance protection gap for natural catastrophes".

countries, which might have a large exposure but where, for example, no appropriate building standards are in place. Another important aspect is also the monitoring of the exposure to each hazard component. Efficient ways to decrease future losses may rely on not building in high-hazard regions or building with higher standards.

Future work to improve current dashboard

Module	Data	Data source	Comments/gaps/future improvements
Historical protection gap	Historical economic and insured losses	Munich Re, Swiss Re	Future work on getting access to historical loss data would benefit from harmonised standards and open source access. Ideally, we should also get access to the insured losses by private sector and insured losses by public system.
Estimated protection gap – Hazard & exposure	Square kilometres of residential and commercial areas impact by hazard	Risk Data Hub from the JRC, WISC	Further perils might be added to the Risk Data Hub, which could then be integrated to the dashboard. A monetary value of the impacted exposure could also be beneficial for the dashboard.
Estimated protection gap – Vulnerability	Building codes standards	JRC, WISC	The JRC is working on a vulnerability index. This could be added to the dashboard. In addition, more granular data could also be helpful to better understand where the building standards might not be appropriate.
Estimated protection gap – Insurance coverage	Insurance penetration, policy conditions	NCA's data, expert knowledge	In the future, these data should be using a common definition and data sources. Further work is needed on a clear definition of insurance penetration.

Outlook

1.12. Estimation of the future protection gap: The dashboard currently provides two views, a historical protection gap and an estimation of today's protection gap. In view of climate change, the dashboard could also add a third view with an estimation of the future protection gap. This could be for example done for perils, which are estimated to be strongly impacted by climate change. This would require not only to study the way the hazard and the exposure would change in the future due to climate change, but also to monitor the evolution of vulnerability and the insurance coverage. These are not easy tasks and we have already identified data gaps when trying to estimate today's protection gaps especially for vulnerability data.

1.13. Additional perils: In light of climate change, droughts could also be added in the dashboard, for example. In addition, linking with EIOPA's work on the shared resilience solution for pandemics (EIOPA, 2020), the main elements defined in this pilot dashboard could also serve to measure the protection gap for pandemic risk.

1.14. More granular approach to perils: The search of the data availability has also shown that it is not always straight-forward to access data for a specific peril, the data are often aggregated together. The dashboard would however benefit from a more granular approach to perils clearly distinguishing between coastal floods and river floods, for example as climate change impact would be different for each.

1.15. More detailed split of sectors and coverages: The dashboard focuses mainly on property risks. It could be also beneficial in the future to have a split among residential/commercial/industrial/agricultural sectors as well as among building/content/business interruption coverages as the protection gap might vary significantly.

1.16. View per region: The current dashboard offers a view per country. It might also be interesting to offer a more detailed view of the protection gap per regions within a country, as the hazard, vulnerability and insurance coverage may significantly vary within a country. All the mentioned points would however require data, which are currently not available.

1.17. Better reflect national schemes: Finally, the dashboard focuses mainly on the insurance coverage provided by the private sector. A future area of development would also be to better integrate description of national schemes, have a clear split of the losses insured by the private sector versus losses taken by national schemes, etc.

Reference

EEA (2017). Climate change, impacts and vulnerability in Europe 2016. EEA Report No 1/2017.

EIOPA (2019). Staff discussion paper: Protection gap for natural catastrophes.

EIOPA (2020). Staff paper: Issues Paper on resilience solutions for pandemics

EIOPA (2020). Technical description - Pilot dashboard on insurance protection gap for natural catastrophes.

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