

Flexible reports and other DIPO features



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(Secretary General DIPO Association)

- 1. DIPO features**
- 2. Data overview**
- 3. Report Flexibility**

- Act as a “**think tank**” for all ORM issues pointed out by members
- Foster continued improvements in **data quality**
- Increase **multipurpose usage of DIPO data** through **personalized** reports with **optional severity-scaling** methodology and **parameters for data filtering**

DIPO Technical committees
issued
Position Papers to Regulators
and papers on
legal risk,
credit boundary events, etc.

Main characteristics (1/2)

- Events with date of occurrence or discovery from **2003**
- Threshold : **5,000 EUR**
- Data collection: **twice a year**
- Dipo collects **events** and **not effects**
- Common definition of **gross loss**
- Common **ET decision tree** and **BL mapping**
- **Events updated** along their natural evolution
- **31 member of all sizes** and mainly not AMA
- DIPO members include about **75%** of the Italian banking system (without including BCC) in terms of Gross Income (GI) and Operating Costs (OC)

data homogeneity

Ad hoc
Technical Committee
to answer
queries on "strange events"
to guarantee uniform classification

Main characteristics (2/2)

- Custodian knows exactly which individual entity belonging to a member-group has suffered a single loss (around 200 entities)
- OC, GI and GI by BL collected both at single entity and consolidated group level

Flexibility

Cluster analysis using OC, GI and GI by BL performed on **entities** (subdivided into 5 clusters)

Data quality

- Loss frequencies and severities
- **Compatibility test** on last semester data of each single entity vs:
 - **loss behavior** of the same entity in the previous semesters
 - same cluster entities
- “Warning” if statistical tests give abnormal results (i.e. 3 sigma and KS test)

Domain: what to record in DIPO

The term “effective gross loss” means **negative income flows**:

- of **at least 5,000 Euro**
- with **certainty** of quantification of the amount that is entered in the **P/L statement** (including specific provisions, excluding generic loss provisions)
- **attributable to the event**, either directly or through management or departmental observation. Direct attribution applies both to losses and to any expenses - invoiced by third parties - sustained for settlement of the event
- **not due to**
- **net of** **but gross of amounts recovered**

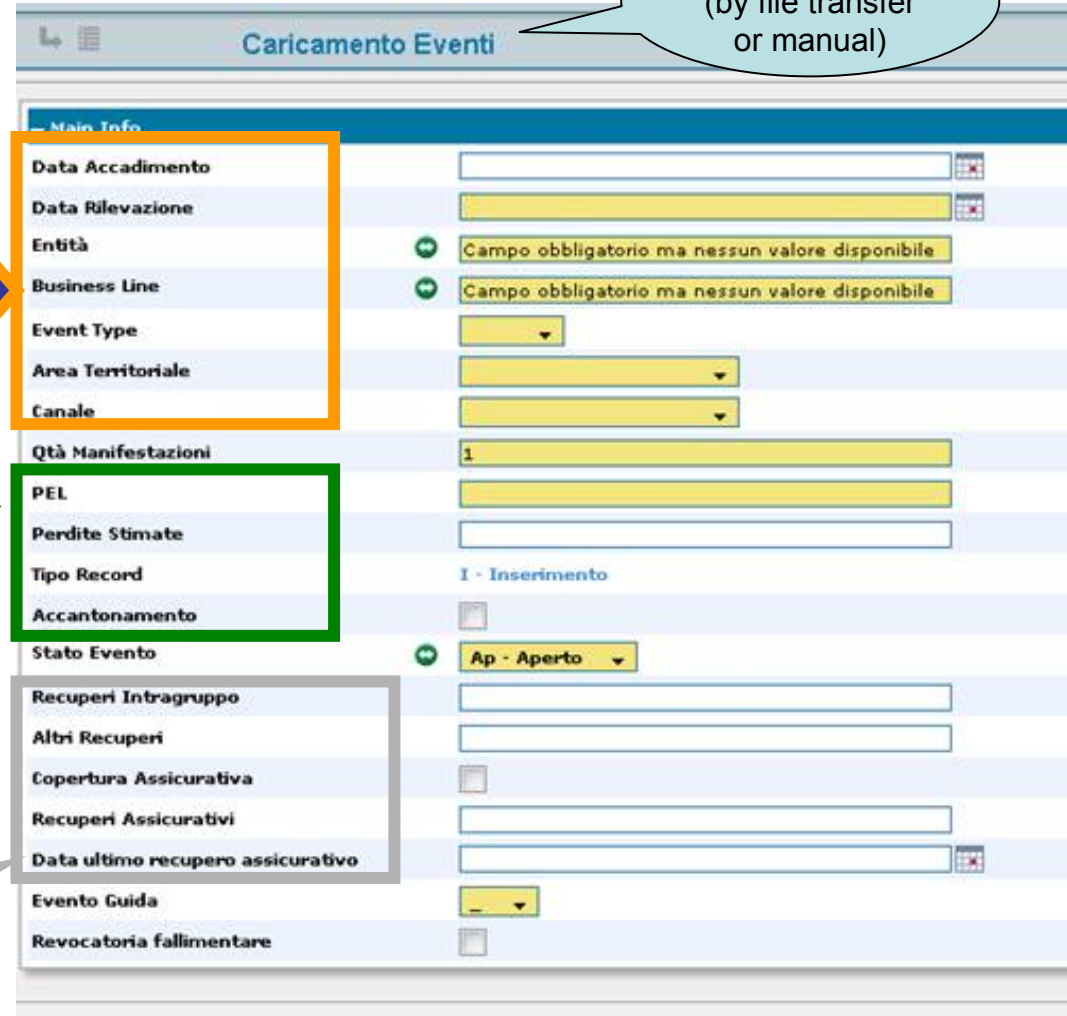
Better late and official than immediate but estimated

EV data feeding
(by file transfer
or manual)

Date of loss occurrence
and/or discovery
Entity
BL 1 level
ET 2 level
Region in Italy or generically "Abroad"
Specific Distribution channel involved

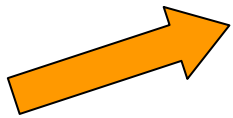
Gross Loss Amount
(no estimation but registered on P/L)
Loss amount partially or totally in the
form of provisioning (Y/N)
Amount of other estimated
losses

Insurance recoveries
(updated total recoveries
and date of last recovery)
"Within the group" recoveries
and other kinds of recoveries

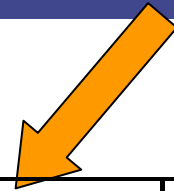


| Caricamento Eventi | |
|-----------------------------------|---|
| Main Info | |
| Data Accadimento | <input type="text"/> |
| Data Rilevazione | <input type="text"/> |
| Entità | ⊕ Campo obbligatorio ma nessun valore disponibile |
| Business Line | ⊕ Campo obbligatorio ma nessun valore disponibile |
| Event Type | <input type="text"/> |
| Area Territoriale | <input type="text"/> |
| Canale | <input type="text"/> |
| Qtà Manifestazioni | 1 |
| PEL | <input type="text"/> |
| Perdite Stimate | <input type="text"/> |
| Tipo Record | <input type="text"/> |
| Accantonamento | <input type="text"/> |
| I - Inserimento | |
| Stato Evento | ⊕ Ap - Aperto |
| Recuperi Intragruppo | <input type="text"/> |
| Altri Recuperi | <input type="text"/> |
| Copertura Assicurativa | <input type="text"/> |
| Recuperi Assicurativi | <input type="text"/> |
| Data ultimo recupero assicurativo | <input type="text"/> |
| Evento Guida | <input type="text"/> |
| Revocatoria fallimentare | <input type="text"/> |

1. **DIPO features**
2. **Data overview**
3. **Report Flexibility**



LDCE vs DIPO



| | | LDCE All Participants | LDCE Europe | DIPO Participants | DIPO Participants (with 01SE2009) |
|------------------------|-------------|-----------------------|-------------|-------------------|-----------------------------------|
| Tot. Loss frequency | | 10,595,318 | 1,674,456 | 42,023 | 48,379 |
| Tot. Loss amt. (mio €) | | 59,600 | 20,799 | 2,828 | 3,295 |
| Losses ≥ 20,000 € | Frequency | 171,882 | 76,079 | 15,590 | 17,943 |
| | Sum (mil €) | 53,703 | 19,768 | 2,568 | 3,007 |
| Top 20 Losses (mil €) | | 17,600 | n.d. | 756 | 888 |
| Perc. of total losses | | 29.53% | n.d. | 26.73% | 26.95% |

- DIPO has a higher share of events $\geq 20,000$ € (one third vs. one sixth of LDCE)
- For severity, same percentage of losses $\geq 20,000$ € on total losses (90.8% DIPO vs. 90.1% LDCE)
- In DIPO Top 20 Losses count for a percentage on Total Losses similar to the LDCE one

LDCE vs DIPO

| Frequency of Losses (N) | Number of Losses | Amount of Losses (mil €) | Number of losses ≥ 20.000 € | Amount of losses ≥ 20.000 € (mil €) |
|-------------------------|------------------|--------------------------|----------------------------------|--|
| $0 \leq N \leq 250$ | 996 | 50 | 364 | 45 |
| $250 \leq N < 1.000$ | 13,248 | 1,453 | 3,319 | 1,409 |
| $1.000 \leq N$ | 10,581,074 | 58,097 | 168,199 | 52,248 |
| All | 10,595,318 | 59,600 | 171,882 | 53,702 |

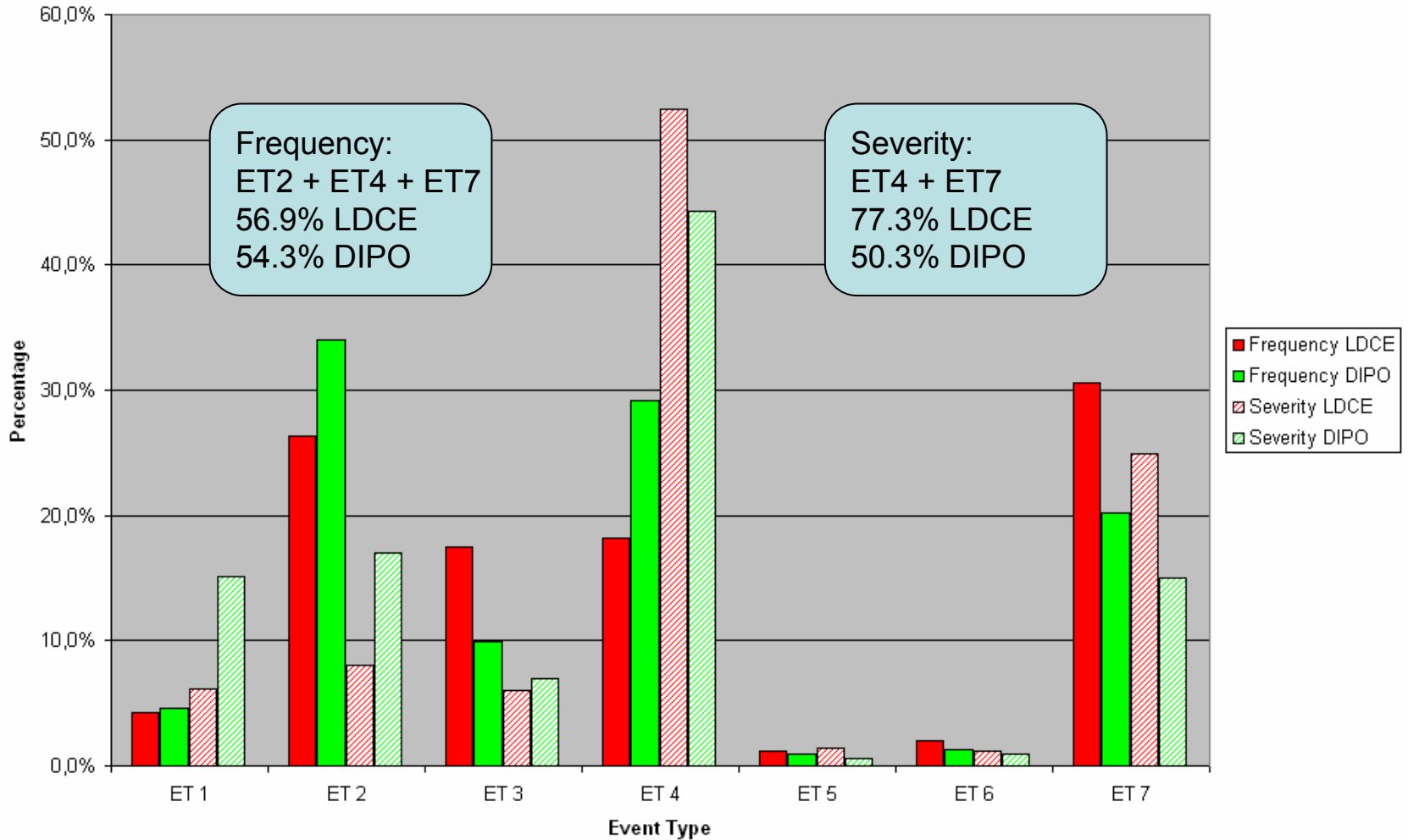
LDCE

| Frequency of Losses (N) | Number of Losses | Amount of Losses (mil €) | Number of losses ≥ 20.000 € | Amount of losses ≥ 20.000 € (mil €) |
|-------------------------|------------------|--------------------------|----------------------------------|--|
| $0 \leq N \leq 250$ | 1,282 | 62 | 472 | 54 |
| $250 \leq N < 1.000$ | 3,767 | 163 | 1,347 | 139 |
| $1.000 \leq N$ | 38,022 | 2,603 | 13,771 | 2,375 |
| All | 43,071 | 2,828 | 15,590 | 2,568 |

DIPO

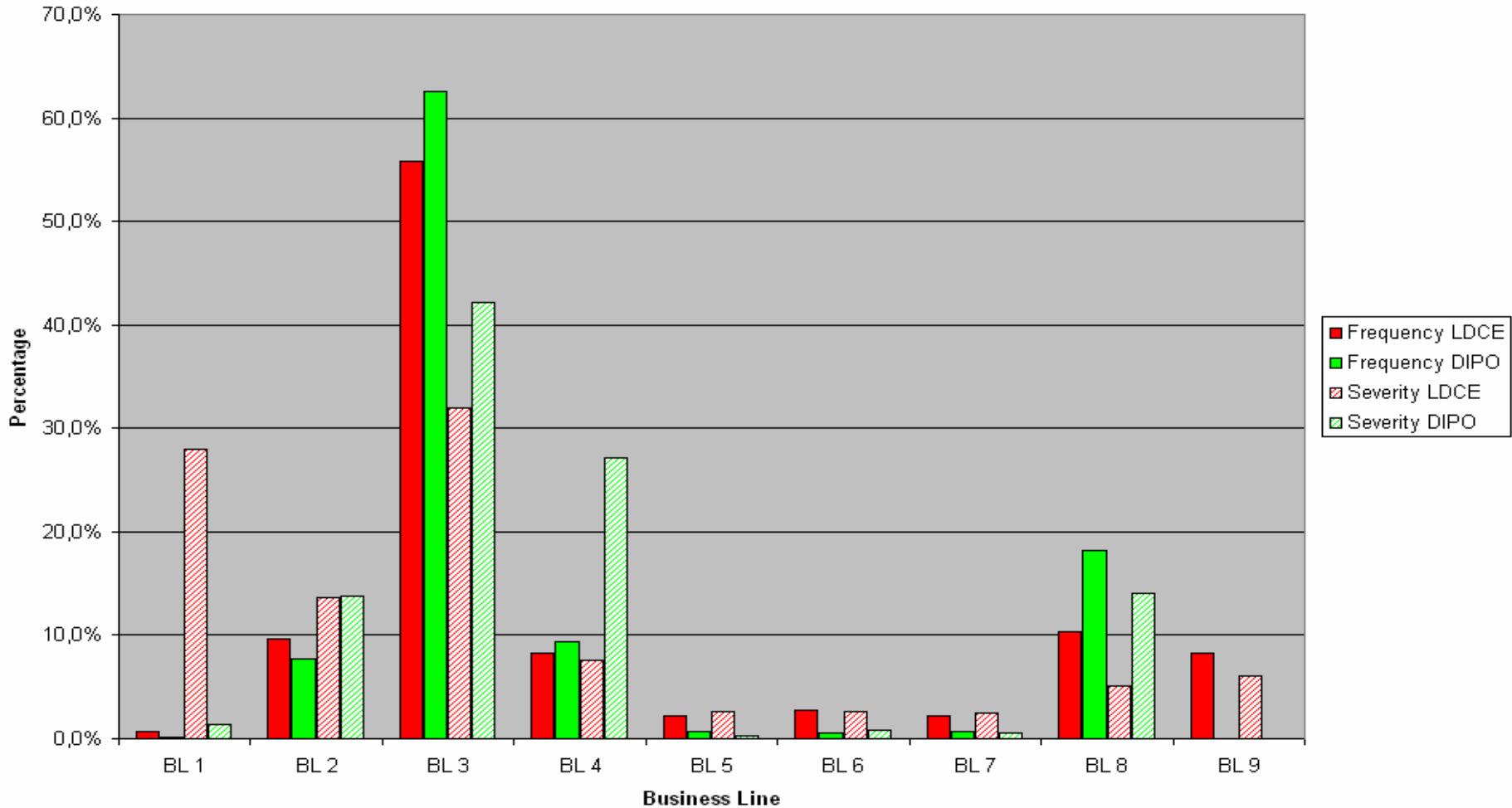
- For frequency and severity (losses $\geq 20,000$), majority of DIPO and LDCE data come from members with more than 1,000 losses

LDCE vs. DIPO: ET



Percentage of annualised loss frequencies and severity by Event Type. Events $\geq 20,000$ €; LDCE *stable dataset* vs. DIPO 2003-2008 data.

LDCE vs. DIPO: BL



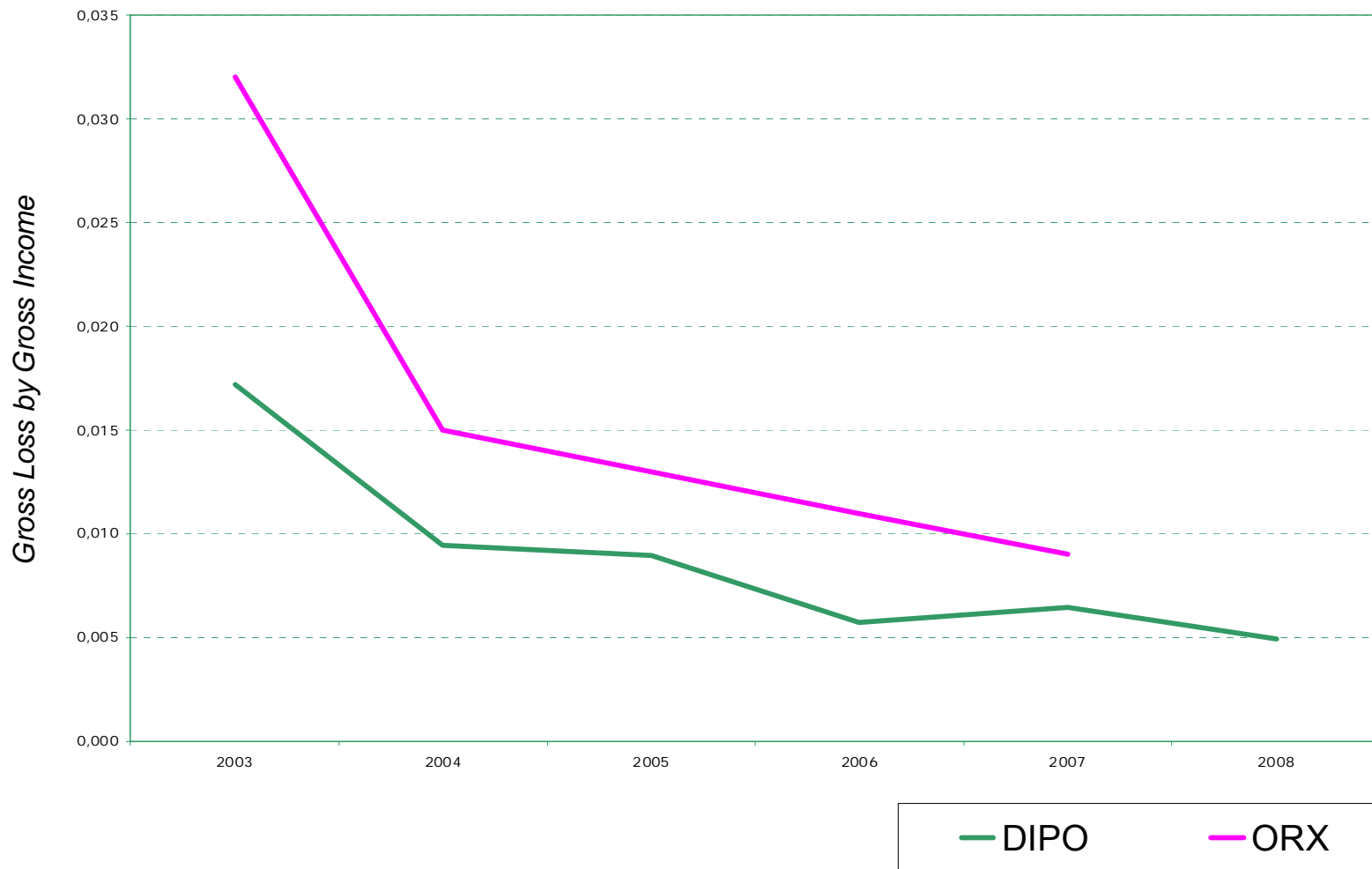
Percentage of annualised loss frequencies and severity by Business Line. Events $\geq 20,000$ €; LDCE *stable dataset* vs. DIPO 2003-2008 data.

Loss severity by Gross Income

| Annualised Loss Amount Normalised per € Billion of Gross Income | | | |
|--|------------|---------------|-----------|
| | LDCE - All | LDCE - Europe | DIPO |
| Sum of losses \geq €20,000 | 4,860,322 | 5,125,736 | 3,746,747 |

- **DIPO members seem to be less impacted by annual operative losses per € Bio than LDCE participants**
 - Does it have something to do with a bank's risk profile or with loss data collection quality?
 - Does GI have something to do with all kinds of ET/operational risks?

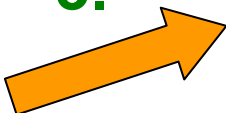
Comparison between DIPO and ORX data (*Gross Loss by Gross Income*)



1. DIPO features

2. Data overview

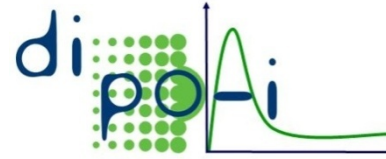
3. Report Flexibility



- Three separate reports: qualitative (standard), quantitative entity level and quantity group level (both personalized)
- In quantitative reports, single record/event enriched with entity/group characteristics (cluster, legal category, MUT)

- Events from 2007 onwards with gross loss above 1 mil. but exact loss not reported in this kind of data flow

Members give detailed description of the process which generated the loss and of the action taken to mitigate the risk and avoid future similar events



Qualitative
Low F – High S
report

Mitigation
Control/Risk Self-Assessment
Scenario Analysis

“Quantitative” DIPO Reports at ENTITY and MEMBER level

A Single event/record is collected via web based platform List Group

A **B** Anonymised by Custodian

Entity

Legal category
+
Cluster
+

A **B** **C** Enriched with data on the **ENTITY** where event happened

MUT of the ENTITY where the event happened, MUT computed for each Entity/BL/ET/Sem at the 90° percentile (x)

Member

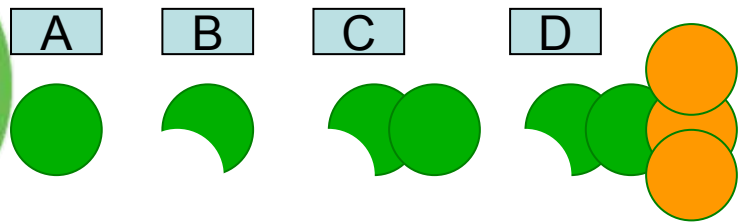
A **B** **C** Enriched with data on the **MEMBER** where event happened

MUT of the MEMBER GROUP where the event happened, MUT computed for each Member/BL/ET/Sem at the 90° percentile (t)

Flexibility: Quantitative DIPO reports

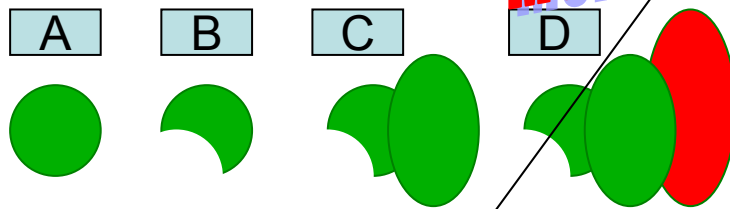
“Quantitative” DIPO data flow at ENTITY and MEMBER level

Entity



Enriched with **MUT** of each **ENTITY** belonging to the **MEMBER GROUP** receiving the file, **MUT** computed for each entity/BL/ET/Sem at the 90° percentile (y)

Member



Enriched with **MUT** of the **MEMBER GROUP** receiving the file, **MUT** computed for each Member/BL/ET/Sem at the 90° percentile (z)

31 personalised reports

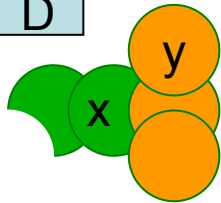
Flexibility: multipurpose and personalised usage of DIPO data

C



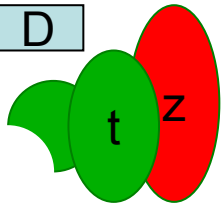
OPTIONAL event filtering
(by cluster and/or legal
category) especially used in
benchmark analysis

D



Used for OPTIONAL Severity
Scaling at ENTITY level.
Scaled Gross Loss=
Gross Loss by x/y

D



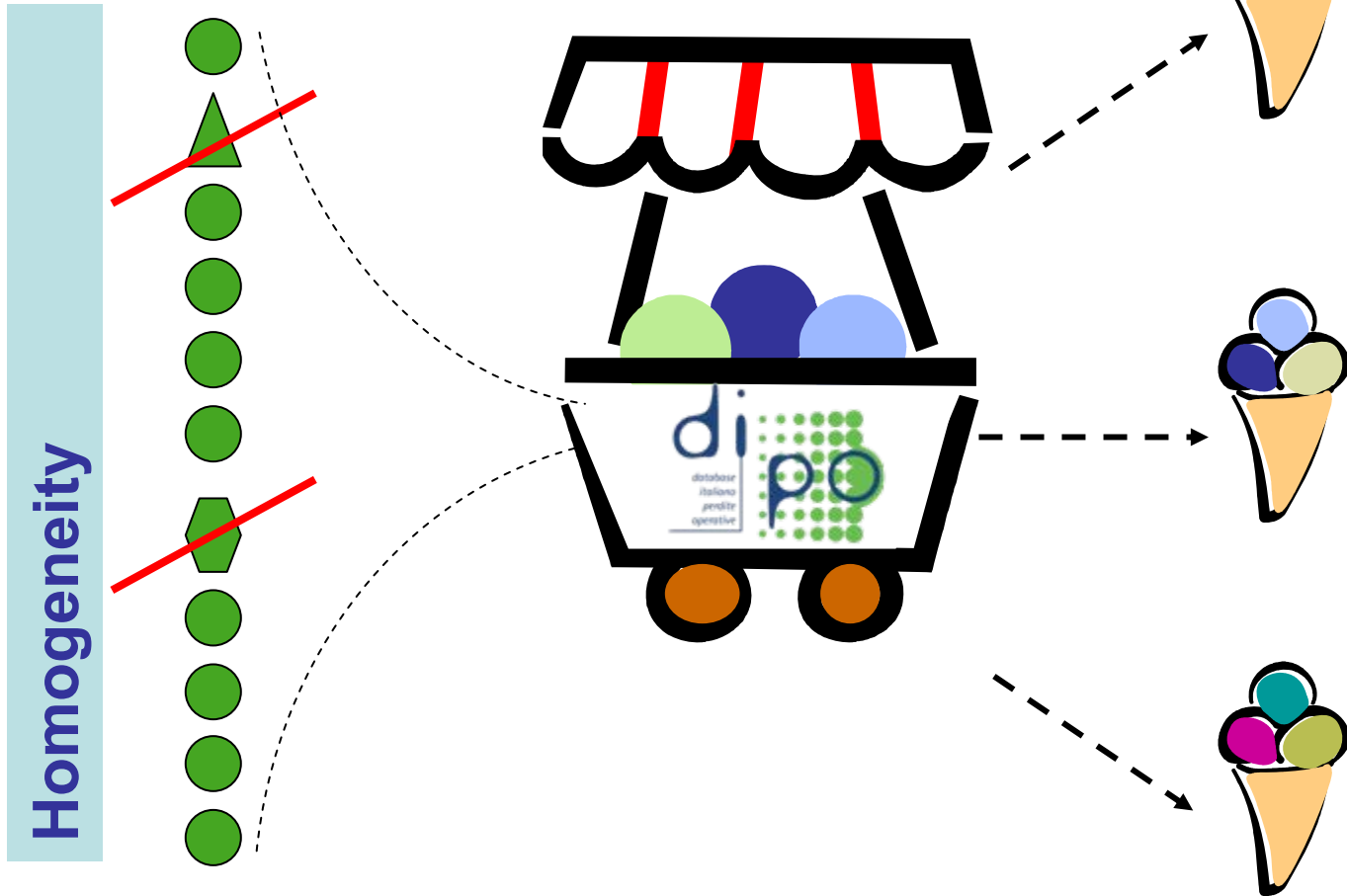
Used for OPTIONAL Severity
Scaling at GROUP level.
Scaled Gross Loss=
Gross Loss by t/z

A 2007 survey among DIPO members shows they use DIPO data in a multipurpose way:

- AMA model (LDA, risk self-assessment, scenario analysis etc.)
- benchmark analysis
- operational risk transfer and mitigation
- internal auditing
- EL for pricing
- ...

Data from Members

Reports for Members



Homogeneity

Flexibility



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*Claudia thanks
for Conference and Presentation*

Carola Achermann
Marco Belluomini
Vincenzo Buggè
Claudia Capobianco
Monia Morucci

