

# Methodological note

---

On the choice, calculation and interpretation of EBA's Retail Risk Indicators

## Background

1. Article 9(1) of Regulation (EU) no 1093/2010 (“EBA Regulation”) requires the EBA to develop retail risk indicators (RRIs) for the timely identification of potential consumer harm. For this purpose, the EBA is publishing a list of 11 RRIs that cover a wide variety of different types of products in the EBA’s remit (e.g., mortgage credit, consumer credit, or payment accounts).
2. These indicators aim to facilitate the monitoring of the banking markets across the EU by measuring the risk of detriment arising to consumers from the misconduct of the institutions, and from wider economic conditions.
3. They provide information that help the EBA and national competent authorities to prioritise their regulatory and supervisory work in the area of consumer protection but may be of interest to other, external stakeholders as well. The RRI are summarized in a table published on the EBA [website](#), which is accompanied by a set of charts showing results at Member State-level. This methodological note aims to help with the interpretation of the results presented in the said table and charts.
4. The data used to calculate the indicators has a number of limitations that have an impact on how these indicators should be interpreted. Amongst those that apply more generally across several of said indicators is the limitation that some indicators do not cover all EU and other EEA countries. Further, in the absence of comprehensive consumer protection data being available for the EU, some indicators are calculated based on data collected by the EBA primarily for the purpose of prudential supervision rather than consumer protection requirements, and thus should be understood as mere proxies for potential consumer detriment, not precise metrics. Finally, many of these indicators are published for only the second time, and any potential trends will only emerge in the coming years.
5. These limitations are particularly important when comparing Member States against one another, where the aforementioned limitations are more likely to make it difficult to arrive at robust conclusions as results may reflect market and/or business model specificities. For that reason, direct comparison of results between specific Member States should be done very cautiously and should be done in the wider context of a given banking market and the Member State’s economic circumstances. The main purpose of showing Member State level data is to demonstrate the divergence across all EU Member States. These divergences can be significant and are an interesting observation in their own right for the purpose of future prioritization of tasks. Future improvements in the comprehensiveness and quality of the data will gradually improve the robustness of these indicators over time.
6. Following its initial publication in Q1 of 2023, the indicators are subsequently updated and refined on an annual basis and published as part of the EBA’s annual Risk Assessment Report, and on the dedicated EBA webpage.

## Choice of indicators

7. The EBA chose the 11 RRI from a long list of more than 50 indicators, on the basis of the following 7 selection criteria:
  - A. **Measurability:** the indicators chosen shall quantify an observation;
  - B. **Measurement accuracy:** the indicators shall measure the harm that arises to consumers in terms of the number of consumers impacted and/or the extent of detriment accruing to each consumer<sup>1</sup>;
  - C. **Data availability:** the indicators shall be based on data that the EBA can attain, on a regular basis, so that the observations can be measured across time;
  - D. **Data reliability:** the indicators shall be based on data that is retrieved from sources that employ a methodology that is robust and also stable across time;
  - E. **Implementation cost:** the indicators shall be based on data that can be retrieved without the EBA imposing additional data reporting obligations on financial institutions or NCAs, and without the EBA incurring unnecessary or oversized costs;
  - F. **Geographical representativeness:** the indicators shall measure observations across as many as possible, and ideally all, of the 27 EU Members States;
  - G. **Actionability:** the indicators shall be suitable for leading to concrete action. The need for action can be highlighted by EBA's RRIs ex-post, for detriment that has already materialised, which then allows for potential mitigating action to be taken to reduce a further proliferation of said detriment. Also, this can be done ex-ante, for detriment that is at risk of materialising in the future, which then allows for preventive action to be taken to reduce the extent and/or likelihood of detriment that will materialize.
8. These 11 RRI have been deemed by the EBA as sufficiently relevant and robust when assessed against the aforementioned criteria. The following section outlines the 11 RRI and for each provides its basic characteristics, aim of the indicator, the source of the data, and an explanation how to interpret it, and what are the limitations of that indicator.

---

<sup>1</sup> Definitions of the concept “detriment” are also available, for example in the 2017 study by the EU Commission, [Study on measuring consumer detriment in the European Union](#), and the 2020 document of the OECD [Measuring consumer detriment and the impact of consumer policy](#), which also helpfully lists generic types of detriment, such as inflated prices, the cost of replacing a product, the costs associated with complaining and resolving a problem, and the cost of advice.

## Calculation and interpretation of the indicators

### Share of household loans with forbearance measures over total household loans (MC1)

<b>Calculation formula</b>	$(A \times 100)/B$ A: Exposures with forbearance measures for loans and advances for households B: Total loans and advances to households on balance sheet
<b>Data source</b>	Data point A: template F19.00, column 010, rows 150, 197 and 227. Data point B: template F18.00, column 010, rows 150, 197 and 227.
<b>Reporting frequency</b>	Quarterly

9. Indicator MC1 aims to assess the access of consumers to forbearance measures.
10. This indicator, as well as indicators MC2, OCL1, PDA1 are based on the prudential data submitted by the NCAs and the ECB in the context of the EBA reporting frameworks, which include e.g., COREP and FINREP reports<sup>2</sup>. Even though originally tailored for prudential banking supervision, this data source is considered of relevance for consumer protection purposes because it is broad in scope and robust due to the maturity and reliability of the reporting channel in place. Member State-level data is at the highest level of consolidation in the Member State. This means that at Member State level, the subsidiary located in Member State X of a bank headquartered in Member State Y is included in data for both Member States X and Y.
11. The sample used to calculate this indicator corresponds to the sample used by the EBA to calculate the EBA Risk Dashboard.
12. The data should be interpreted cautiously and seen in the wider context of the economic situation in a given Member State and the EU. A decrease of this ratio may indicate that consumers experience detriment because their access to forbearance measures is lower over time. Though it may also be the case that the indicator decreases because of the overall strength of the economy and fewer customers requiring forbearance measures, or transitioning from a period in which higher levels of forbearance measures were needed to one in which fewer measures are necessary.

<sup>2</sup> Further specifications are available on the EBA website here: [EBA reporting frameworks | European Banking Authority \(europa.eu\)](https://www.eba.europa.eu/en/reporting-frameworks)

### Share of NPLs collateralised by immovable property over total loans collateralised by immovable property (MC2)

<b>Calculation formula</b>	$(A \times 100)/B$ A: Non-performing loans and advances for loans collateralised by residential immovable property B: Total gross loans and advances for loans collateralised by residential immovable property
<b>Data source</b>	Data point A: template F18.00, column 060, rows 160, 910 and 930. Data point B: template F18.00, column 010, rows 160, 910 and 930.
<b>Reporting frequency</b>	Quarterly

13. Indicator MC2 aims to measure if consumers face difficulties to make their mortgage payments.
14. This indicator is based on the prudential data submitted by the NCAs and the ECB in the context of the EBA reporting frameworks, which include e.g., COREP and FINREP reports. Member State-level data is at the highest level of consolidation in the Member State. This means that at Member State level, the subsidiary located in Member State X of a bank headquartered in Member State Y is included in data for both Member States X and Y.
15. When customers are facing difficulties in making mortgage repayments, it will be reflected in this ratio. In general, a decrease of this ratio indicates that consumers' financial situation is improving. However, it may also be the case that over time the indicator could decrease if banks change their business model and/or limit providing mortgage products to certain consumers, and/or dispose of such loans. Thus, the result of this indicator needs to be interpreted in the context of the wider EU economic environment.

### Share of NPLs from credits for consumption over total loans from credits for consumption (OCL1)

<b>Calculation formula</b>	$(A \times 100)/B$ A: Non-performing loans and advances for credit for consumption B: Total gross loans and advances for credit for consumption
<b>Data source</b>	Data point A: template F18.00, column 060, rows 170, 913 and 933. Data point B: template F18.00, column 010, rows 170, 913 and 933.
<b>Reporting frequency</b>	Quarterly

16. Indicator OCL1 aims to proxy if consumers face difficulties to repay their loans other than mortgages.
17. This indicator is based on the prudential data submitted by the NCAs and the ECB in the context of the EBA reporting frameworks, which include e.g., COREP and FINREP reports. Member State-

level data is at the highest level of consolidation in the Member State. This means that at Member State level, the subsidiary located in Member State X of a bank headquartered in Member State Y is included in data for both Member States X and Y.

18. When customers are facing difficulties in making loan repayments, it will be reflected in this ratio. In general, a decrease of this ratio indicates that consumers' financial situation is improving. However, it may also be the case that over time the indicator could decrease if banks change their business model and/or limit providing loans to certain consumers, and/or dispose of such loans. Thus, the result of this indicator needs to be interpreted in the context of the wider EU economic environment.

### Percentage of deposit interest expenses paid by banks to households over total household deposits (PDA1)

<b>Calculation formula</b>	$(A \times 100) / B$ <p>A: Interest paid by banks to households on their deposits (annualized)          B: Total households' deposits (average)</p>
<b>Data source</b>	<p>Data point A: template F16.01, column 020, row 220.</p> <p>Data point B: template F08.01, columns 010, 020, 030, 034 and 035, rows 310.</p>
<b>Reporting frequency</b>	Quarterly

19. Indicator PDA1 aims to measure the return consumers receive on their deposits.
20. This indicator is based on the prudential data submitted by the NCAs and the ECB in the context of the EBA reporting frameworks, which include e.g., COREP and FINREP reports. Member State-level data is at the highest level of consolidation in the Member State. This means that at Member State level, the subsidiary located in Member State X of a bank headquartered in Member State Y is included in data for both Member States X and Y. The average of the denominator is calculated as follows:
  - Q1:  $[Q4 (t-1) + Q1 (t)] / 2$ ;
  - Q2:  $[Q4 (t-1) + Q2 (t)] / 2$ ;
  - Q3:  $[Q4 (t-1) + Q3 (t)] / 2$ ;
  - Q4:  $[Q4 (t-1) + Q4 (t)] / 2$ .
21. The annualization of the numerator is calculated as follows:
  - Q1:  $Q1 (t) * 4$ ;
  - Q2:  $Q2 (t) * 2$ ;

- Q3:  $Q3(t) * (4/3)$ ;
- Q4:  $Q4(t)$ .

22. An decrease of this ratio would mean that deposits are less profitable for consumers. On the other hand, an increase would mean that consumers are profiting more from holding their deposits at a bank.

### Share of fraudulent card payments over total card payments (CDC1)

<b>Calculation formula</b>	<p>Indicator expressed in terms of volume of total transactions,  <math>(A \times 100) / B</math>  A: Volume of fraudulent card payments  B: Volume of total card payments</p> <p>Indicator expressed in terms of value of total transactions,  <math>(A \times 100) / B</math>  A: Value of fraudulent card payments  B: Value of total card payments</p>
<b>Data source</b>	<p>Annex 2 of the EBA guidelines on fraud reporting under the PSD2</p> <p>Indicator expressed in terms of volume of total transactions,  Data point A: Table C – item 3: fraudulent payments volume (Fvo3)  Data point B: Table C – Item 3: payments volume (Pvo3)</p> <p>Indicator expressed in terms of value of total transactions,  Data point A: Fva3  Data point B: Pva3</p>
<b>Reporting frequency</b>	Biannual

23. Indicator CDC1 aims to measure the share of fraudulent transactions in the total volume and value of card payments. An increase of this ratio would indicate that consumers are more exposed to fraud in the context of their card payments.

24. This indicator, but also indicators CDC2, OPI1 and OPI2 are based on the statistical data on payment fraud reported to the EBA by the NCAs in compliance with Article 96(6) of the revised Payment Services Directive (PSD2) and EBA Guidelines on fraud reporting<sup>3</sup>. This source allows to determine the volume and nature of fraud for a large set of payment means (credit transfers, direct debits, card payments, cash withdrawals, e-money transactions, money remittance payment transactions, and transactions initiated by payment initiation services providers). The EBA is currently working on improving the completeness and reliability of the submitted fraud reports by assessing the feedback received in the context of a Discussion Paper dedicated to this

<sup>3</sup> [Guidelines EBA/GL/2018/05 on fraud reporting under PSD2](#), as revised in January 2020.

reporting<sup>4</sup>. The limitations of this data source that the reader should keep in mind when assessing the abovementioned indicators are outlined below.

25. The sample of countries that the EBA included in the calculation of indicator CDC1, comprises 29 EEA countries, with only LI missing. The EBA considers the figures provided to be sufficiently robust. Also, among the 7 payment instruments for which national authorities are required to report payment fraud data under the EBA guidelines, the EBA applied those indicators for 2 of these payment instruments. These are credit transfers (for OPI1 and OPI2) and payment cards (for CDC1 and CDC2 based on the data reported by card issuers). These payment instruments are the ones for which the data reported has been assessed as sufficiently consistent and robust, and most relevant in terms of volume of transactions.

### Change to previous year of the fraud losses borne by card payment users (CDC2)

<b>Calculation formula</b>	$(100 \times (A - B)) / B$ <p>A: Absolute value losses due to fraud borne by card payment services users time Y</p> <p>B: Absolute value losses due to fraud borne by card payment services users time Y – 1</p>
<b>Data source</b>	<p>Annex 2 of the EBA guidelines on fraud reporting under the PSD2</p> <p>Data point A: 9.3 PSU time Y</p> <p>Data point B: 9.3 PSU time Y – 1</p>
<b>Reporting frequency</b>	Biannual

26. Indicator CDC2 measures percentage changes to the amount of losses due to fraud that are borne by card payment services users. A positive value of the indicator indicates an increase in losses to the consumer from one year to the next, while a negative value of the indicator would indicate a decrease in losses to the consumers. However, the figure needs to be interpreted with caution because changes to the volumes of transactions impact the indicator. Moreover, in case of very limited aggregate value of the fraudulent transactions, this indicator is sensitive even to little variations, in absolute terms, of the losses borne by the card payment services users over the reference periods. Thus, the indicator should be analysed alongside indicator CDC1.
27. Based on the abovementioned limitations encountered in the context of the fraud payment data collected under PSD2, the sample of countries that the EBA included in the calculation of indicator CDC2 comprises 18 EEA countries BE, BG, DE, DK, EE, EL, ES, HR, HU, IE, IT, LU, LV, MT, PT, RO, SE and SK. This sample is smaller than the one used for indicators CDC1 and because the EBA excluded the Member States that did not report data for at least one of the two reporting periods considered when computing the indicator, or in which the EBA identified significant outlier figures (presumably due to reporting errors). The EBA expects to gradually expand the scope of Member

<sup>4</sup> [Discussion Paper EBA/DP/2022/01](#) on the EBA’s preliminary observations on selected payment fraud data under PSD2, as reported by the industry.



States and payment instruments included in the context of the future updates and refinements of the RRIs.

**Share of fraudulent payments over all payments (credit transfers – OPI1)**

<b>Calculation formula</b>	$(A \times 100) / B$ <p>A: Volume of fraudulent payments – credit transfers          B: Volume of total payments – credit transfers</p> $(A \times 100) / B$ <p>A: Value of fraudulent payments – credit transfers          B: Value of total payments – credit transfers</p>
<b>Data source</b>	<p>Annex 2 of the EBA guidelines on fraud reporting under the PSD2</p> <p>Indicator expressed in terms of volume of total transactions,          Data point A: Fvo1          Data point B: Pvo1</p> <p>Indicator expressed in terms of value of total transactions,          Data point A: Fva1          Data point B: Pva1</p>
<b>Reporting frequency</b>	Biannual

28. Indicator OPI1 aims to measure the share of fraudulent credit transfers transactions in the total volume of such payments. An increase of this ratio may indicate that consumers are more exposed to fraud in the context of their use of credit transfers.
29. The higher the figures, the more fraudulent transactions there are, and thus the more detriment there is to consumers. Conversely, the lower the figure, the less fraudulent transactions there are in comparison to all transactions, which is to the benefit of the consumer.
30. The sample of countries that the EBA included in the calculation of indicator OPI1, 29 EEA countries, with only LI missing. Among the 7 payment instruments for which national authorities are required to report payment fraud data under the EBA guidelines, the EBA applied those indicators for 2 of these payment instruments. These are credit transfers (for OPI1 and OPI2) and payment cards (for CDC1 and CDC2) (based on the data reported by card issuers). These payment instruments are the ones for which the data reported has been assessed as sufficiently consistent and robust, and most relevant in terms of volume of transactions.

## Change to previous year of the fraud losses borne by payment services users (credit transfers – OPI2)

<b>Calculation formula</b>	$(100 \times (A - B)) / B$ <p>A: Absolute value losses due to fraud borne by payment services users Time Y (credit transfers)            B: Absolute value losses due to fraud borne by payment services users Time Y-1 (credit transfers)</p>
<b>Data source</b>	Annex 2 of the EBA guidelines on fraud reporting under the PSD2 Data point A: 9.1 PSU Time Y Data point B: 9.1 PSU Time Y – 1
<b>Reporting frequency</b>	Biannual

31. Indicator OPI2 aims to measure a potential increase during the past year in the amount of losses due to fraud that are borne by the users of credit transfers.
32. A positive value of the indicator indicates an increase in losses to the consumers from one year to the next, while a negative value of the indicator indicates a decrease in losses to the consumers. However, the figure needs to be interpreted with caution because significant changes to the volumes of transactions impact the indicator. Moreover, in case of very limited aggregate value of the fraudulent transactions, this indicator is sensitive even to little variations, in absolute terms, of the losses to the consumers over the reference periods. Thus, the indicator should be analysed alongside indicator OPI1.
33. The sample of countries that the EBA included in the calculation of indicators OPI2 comprises 20 EEA countries: BE, BG, DK, EE, EL, ES, FI, HR, HU, IE, IT, LU, LV, MT, NL, NO, PT, RO, SE and SK. The EBA had to exclude the Member States which did not report data for at least one of the two reporting periods considered when computing the indicator, or in which the EBA identified significant outlier figures (presumably due to reporting errors). Those indicators reflect the variation of consumer's losses over time and do not only provide a snapshot based on one reference period. The EBA expects to gradually expand the scope of Member States and payment instruments included when computing indicator OPI2 in the context of the future updates and refinements of the RRI's.

## The percentage of people aged 15+ who have an account at a bank or another type of financial institution (AFS1)

<b>Calculation formula</b>	Simple average of percentages reported for each EU Member State in the Global index database (based on surveys)
<b>Data source</b>	World Bank Global index database
<b>Reporting frequency</b>	Every 3 years

34. Indicator AFS1 measures the percentage of people 15+ who report having an account at a bank or another type of financial institution or report personally using mobile money services in the past year.

35. The higher the figure the higher the proportion of adult population with access to the most basic financial service.

36. The dataset does not allow to only include people aged 18+, but does allow to only include those aged 25+. There is little difference between the results for the full 15+ dataset and the 25+ sample. For that reason, the indicator includes everyone aged 15+.

37. The source of the information is the World Bank Global index database. The data is based not on private or public data but on consumer surveys.

**The percentage of people aged 15+ who have a debit or credit card (AFS2)**

<b>Calculation formula</b>	Simple average of percentages reported for each EU Member State in the Global index database (based on surveys)
<b>Data source</b>	World Bank Global index database
<b>Reporting frequency</b>	Every 3 years

38. Indicator AFS2 measures the percentage of people 15+ who report having a debit or a credit card. The higher the figure the higher the proportion of adult population with access to payment services.

39. The source of the information is the World Bank Global index database. The data is based, not on private or public data but on consumer surveys

**The percentage of people aged 15+ who have borrowed any money from family, relatives, or friends in the past year (AFS3)**

<b>Calculation formula</b>	Simple average of percentages reported for each EU Member State in the Global index database (based on surveys)
<b>Data source</b>	World Bank Global index database
<b>Reporting frequency</b>	Every 3 years

40. Indicator AFS3 measures the percentage of people 15+ who report borrowing any money from family, relatives, or friends in the past year.

41. A higher figure may indicate that fewer people have access to loans from financial institutions, and thus, resort to borrowing from family, relatives, or friends. A higher figure may also indicate that the costs of borrowing have increased making it less affordable to use financial services.

42. The source of the information is the World Bank Global Findex database. The data is based not on private or public data but on consumer surveys.