Accident Year vs Calendar Year
(for P&C Insurance)

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This guide describes the relationship between two common concepts: **accident year** and **calendar year**. We start by examining a how these concepts apply to a paid loss for a single claim.

Table 1 presents cumulative paid loss at year-end evaluations for a **single claim** with a date of loss in 2019. **Calendar year** paid loss can be calculated as the difference between amounts at successive year-end evaluations.

Table 1
Single Claim Example

	Paid Loss at Year-End Evaluations ($000s)					
	12/31/19	12/31/20	12/31/21	12/31/22	12/31/23	12/31/24
Cumulative Paid Loss	0	25	40	50	70	70
Incremental Paid Loss		25	15	10	20	0
In Calendar Year:		2020	2021	2022	2023	2024

In the above example, the **paid loss** for **calendar year** 2022 equals:

$50,000 (evaluated as of 12/31/2022)
- $40,000 (evaluated as of 12/31/2021)
$10,000 (calendar year 2022 paid loss)

Note that it is necessary to specify an **evaluation date** when referring to cumulative paid loss for a claim.

Evaluation dates are not relevant to calendar year measures since they are implicit in the definition of a calendar year.

The single claim example is easily generalized. Table 2 presents cumulative paid loss for **accident year** 2019 for a sample portfolio of claims. The claims in **accident year** 2019 have this in common: they all occurred in 2019.

An **accident year** is any 12-month period during which accidents occur.

Table 2
AY Example – Paid Loss

	Accident Year Paid Loss at Year-End Evaluations ($000s)					
	12/31/19	12/31/20	12/31/21	12/31/22	12/31/23	12/31/24
Cumulative Paid Loss	0	542	885	1179	1285	1340
Incremental Paid Loss		542	343	294	106	55
Calendar Year:		2020	2021	2022	2023	2024

A PDF version of this exhibit is available at https://archeractuarial.com/tools/#AYCY

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Observe the similarities between the single claim example in Table 1 and the accident year example in Table 2. The calculation of **calendar year paid loss** for a cohort of claims is analogous to the calculation for a single claim.

In Table 2, our cohort of claims is a single accident year, AY 2019. **Accident year paid loss**, like paid loss for a single claim, is measured with reference to an **evaluation date**.

Next, consider Table 3. This table presents **reported loss** at year-end evaluations for the same sample portfolio of claims described in Table 2. **Reported loss** equals the sum of paid loss and case reserves. In general, **reported loss** is assumed to be stated on a cumulative basis.

As with paid loss, **reported loss** on a **calendar year** basis can be calculated as the difference between amounts at successive year-end evaluations.

Table 3
AY Example – Reported Loss

Accident Year Reported Loss at Year-End Evaluations ($000s)

	12/31/19	12/31/20	12/31/21	12/31/22	12/31/23	12/31/24
Cumulative Reported Loss	0	799	1108	1362	1386	1413
Incremental Reported Loss		799	309	254	24	27
In Calendar Year:		2020	2021	2022	2023	2024

In the above example, the **reported loss** for **calendar year** 2022 equals:

$1,362,000 (evaluated as of 12/31/2022)
- $1,108,000 (evaluated as of 12/31/2021)
$254,000 (calendar year 2022 reported loss)

So far in this guide, we focused on an **accident year** cohort; however, claims with common characteristics can be organized into a variety of cohorts such as **policy year**, **report year**, **program year**, etc. The calendar year concept applies to these cohorts similarly.

Calendar Year / Calendar Period Characteristics

- Calendar periods may be any duration: calendar year, calendar quarter, etc.
- Calendar period metrics are not subject to change over time (except in cases involving errors).
- Calendar period values can be calculated as the difference in amounts between successive evaluations of any cumulative metric.

Accident Year / Accident Period Characteristics

- An accident period is any period during which accidents occur and may be of any duration.
- Accident period metrics are subject to change over time, thus reference to an evaluation date is necessary to be meaningful.