



Clarity in financial reporting

Applying the expected credit loss model to trade receivables using a provision matrix

Introduction

What has changed?

What is the 'general approach' and why the need for a 'simplified approach'?

What accounting policy choices are available when using the 'simplified approach'?

Applying the 'simplified approach' using a provision matrix

Final thoughts

Talking points

- AASB 9 *Financial Instruments* is effective for annual periods beginning on or after 1 January 2018. AASB 9 introduces a new impairment model based on expected credit losses. This is different from AASB 139 *Financial Instruments: Recognition and Measurement* where an incurred loss model was used.
- The complexity of the 'general approach' in AASB 9 necessitated some simplifications for trade receivables, contract assets under AASB 15 *Revenue from Contracts with Customers*; and lease receivables under AASB 117 *Leases* or AASB 16 *Leases*. Certain accounting policy choices apply.
- When applying the 'simplified approach' to, for example, trade receivables with no significant financing component, a provision matrix can be applied. This document provides a stepped approach to using a provision matrix.
- **Step 1** Determine the appropriate groupings of receivables into categories of shared credit risk characteristics.
- **Step 2** Determine the period over which historical loss rates are obtained to develop estimates of expected future loss rates.
- **Step 3** Determine the historical loss rates.
- **Step 4** Consider forward looking macro-economic factors and adjust historical loss rates to reflect relevant future economic conditions.
- **Step 5** Calculate the expected credit losses.

Introduction

Many assume that the accounting for financial instruments is an area of concern only for large financial entities like banks. This is not the case. Almost every entity has financial instruments that they need to account for. In particular, almost every entity has trade receivables and the new financial instruments standard changes the way entities must think about impairment. In this publication we focus on the new impairment requirements in AASB 9. Specifically, we will focus on the impairment guidance for trade receivables, contract assets recognised under AASB 15 and lease receivables under AASB 117 (or AASB 16).



What are trade receivables, contract assets and lease receivables?

A trade receivable is a financial instrument that typically arises from a revenue contract with a customer and the right to receive the consideration is unconditional and only the passage of time is required before the consideration is received.

A contract asset is defined in AASB 15 as an entity's right to receive consideration in exchange for goods or services that the entity has already provided to the customer, but payment is still conditional on the occurrence of a specific event, for example, a quantity surveyor issuing a certification of the stage of contract completion.

A lease receivable is the right to receive lease payments under AASB 117 (or AASB 16).

Why specifically consider only the above items? The impairment guidance in AASB 9 is complex and requires a significant amount of judgement, however, certain simplifications have been made specifically for trade receivables, contract assets and lease receivables. Almost every entity has one of (if not all) these items, therefore it is important that all entities understand the impact of the new accounting requirements. In the first half of this publication we consider the new accounting requirements for impairment of financial assets and in the second half suggest a potential way of applying a provision matrix approach in practice.

What has changed?

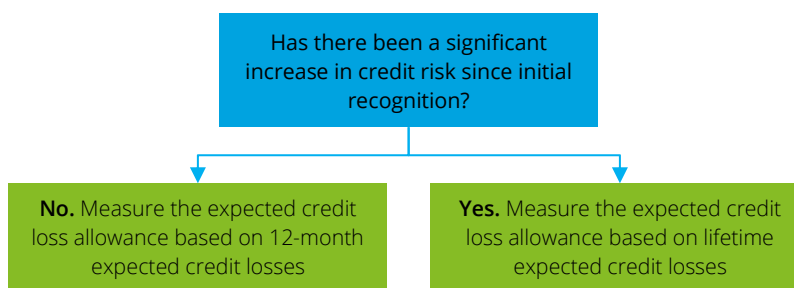
AASB 9 replaces AASB 139 and is effective for all financial years beginning on or after 1 January 2018. In accordance with the requirements of AASB 139, impairment losses on financial assets measured at amortised cost were only recognised to the extent that there was objective evidence of impairment. In other words, a loss event needed to occur before an impairment loss could be booked.

AASB 9 introduces a new impairment model based on expected credit losses, resulting in the recognition of a loss allowance before the credit loss is incurred. Under this approach, entities need to consider current conditions and reasonable and supportable forward-looking information that is available without undue cost or effort when estimating expected credit losses. AASB 9 sets out a 'general approach' to impairment. However, in some cases this 'general approach' is overly complicated and some simplifications were introduced.

What is the 'general approach' and why the need for a 'simplified approach'?

While the simplifications to the general approach in AASB 9 were designed to apply to trade receivables, contract assets and lease receivables, the application of the 'simplified approach' is not always mandatory and in some instances, an accounting policy choice exists between the 'general approach' and the 'simplified approach'. Therefore, it is important to understand both the 'general approach' and the 'simplified approach' even though the majority of this document focuses on the application of the 'simplified approach'.

We begin with AASB 9's 'general approach' to impairment. Under this 'general approach', a loss allowance for lifetime expected credit losses is recognised for a financial instrument if there has been a significant increase in credit risk (measured using the lifetime probability of default) since initial recognition of the financial asset. If, at the reporting date, the credit risk on a financial instrument has not increased significantly since initial recognition, a loss allowance for 12-month expected credit losses is recognised. In other words, the 'general approach' has two bases on which to measure expected credit losses; 12-month expected credit losses and lifetime expected credit losses.





What is meant by 12-month expected credit losses and lifetime expected credit losses?

Lifetime expected credit loss is the expected credit losses that result from all possible default events over the expected life of a financial instrument.

12-Month expected credit loss is the portion of the lifetime expected credit losses that represent the expected credit losses that result from default events on a financial instrument that are possible within the 12 months after the reporting date. The term '12-month expected credit losses' might intuitively sound like a provision for the cash shortfalls that an entity expects in the next 12 months. This is not the case. AASB 9 explains that 12-month expected credit losses are a portion of the lifetime expected credit losses and represent the lifetime cash shortfalls that will result from those possible default events that may occur in the 12 months after the reporting date.

The term 'default' is not defined in AASB 9 and an entity will have to establish its own policy for what it considers a default, and apply a definition consistent with that used for internal credit risk management purposes for the relevant financial instrument. This should consider qualitative indicators (e.g. financial covenants) when appropriate. AASB 9 includes a rebuttable presumption that a default does not occur later than when a financial asset is 90 days past due unless an entity has reasonable and supportable information to demonstrate that a more lagging default criterion is more appropriate. The definition of default used for these purposes should be applied consistently to all financial instruments unless information becomes available that demonstrates that another default definition is more appropriate for a particular financial instrument.

When it comes to the actual measurement under the 'general approach' an entity should measure expected credit losses of a financial instrument in a way that reflects the principles of measurement set out in AASB 9. These dictate that the estimate of expected credit losses should reflect:

- an unbiased and probability-weighted amount that is determined by evaluating a range of possible outcomes;
- the time value of money; and
- reasonable and supportable information about past events, current conditions and forecasts of future economic conditions that is available without undue cost or effort at the reporting date.

When measuring expected credit losses, an entity need not necessarily identify every possible forward looking scenario. However, it should consider the risk or probability that a credit loss occurs by reflecting the possibility that a credit loss occurs and the possibility that no credit loss occurs, even if the possibility of a credit loss occurring is very low. It is also worth noting that the credit loss outcomes of scenarios are not necessarily linear. In other words, an increase in unemployment of 1% could have a greater negative impact than a reduction of 1% in unemployment.

Putting the theory into practice, expected credit losses under the 'general approach' can best be described using the following formula: Probability of Default (PD) x Loss given Default (LGD) x Exposure at Default (EAD). For each forward looking scenario an entity will effectively develop an expected credit loss using this formula and probability weight the outcomes.



What is a PD, LGD and EAD?

Probability of Default (PD) is an estimate of the likelihood of a default over a given time horizon. For example, a 20% PD implies that there is a 20% probability that the loan will default. (AASB 9 makes a distinction between 12-month PD and a lifetime PD as described above).

Loss given Default (LGD) is the amount that would be lost in the event of a default. For example, a 70% LGD implies that if a default happens only 70% of the balance at the point of default will be lost and the remaining 30% may be recovered (be that through recovery of security or cash collection).

Exposure at Default (EAD) is the expected outstanding balance of the receivable at the point of default.

Focussing on PD, in the context of something like trade receivables the requirement to track a significant increase in credit risk for the purposes of distinguishing between a 12-month expected credit loss and a lifetime expected credit loss seems overly complex. This is because trade receivables are typically outstanding for a relatively short period of time and it is impractical to attempt identifying significant increases in credit risk. For example, typical credit terms for trade receivables might be 30 days. Applying the 'general approach' would require an entity to identify trade receivables for which there has been a significant increase in credit risk since initial recognition. On that basis it would separate the measurement between 12-month expected credit losses and lifetime expected credit losses as explained under the 'general approach' above. However, from a pure measurement basis the 'general approach' would not yield a different answer for a 12-month or lifetime expected credit loss. This is because the credit terms are only 30 days. Herein lies the need for a simplification. It is not practical or of any benefit to require entities to apply the general approach for short-term receivables.

Consequently, AASB 9 allows entities to apply a 'simplified approach' for trade receivables, contract assets and lease receivables. The simplified approach allows entities to recognise lifetime expected losses on all these assets without the need to identify significant increases in credit risk (i.e. no distinction is needed between 12-month and lifetime expected credit losses).

However, not all trade receivables, contract assets or lease receivables are short term (i.e. of a short enough term for the distinction between 12-month and lifetime expected credit losses not to matter). For example, the trade receivables of an entity that provides customers with extended credit terms like a furniture retailer that allows its customers to pay for their purchases over three years. In such situations, recognising a lifetime expected credit loss can give rise to a larger loss allowance and larger impairment losses compared to a 12-month expected credit loss. While AASB 9 does not want to overburden entities, it allows entities accounting policy choices in situations where significant financing components are present. This is to address situations where the use of a lifetime expected credit loss on an asset which has not experienced an increase in credit risk would result in an excessive loss allowance compared to when a 12-month expected credit loss is applied.

What accounting policy choices are available when using the 'simplified approach'?

For trade receivables and contract assets that do not contain a significant financing component, it is a requirement to recognise a lifetime expected loss allowance (i.e. an entity must always apply the 'simplified approach'). For other trade receivables, other contract assets, operating lease receivables and finance lease receivables it is an accounting policy choice that can be separately applied for each type of asset (but applies to all assets of a particular type).



What is a significant financing component?

A significant financing component exists if the timing of payments agreed to by the parties to the contract (either explicitly or implicitly) provides the customer or the entity with a significant benefit of financing the transfer of goods or services to the customer. [AASB 15:60] A contract with a customer would not have a significant financing component if any of the following factors exist:

[AASB 15:62]

- the customer paid for the goods or services in advance and the timing of the transfer of those goods or services is at the discretion of the customer.
- a substantial amount of the consideration promised by the customer is variable and the amount or timing of that consideration varies on the basis of occurrence or non-occurrence of a future event that is not substantially within the control of the customer or the entity (for example, if the consideration is a sales-based royalty).
- the difference between the promised consideration and the cash selling price of the good or service arises for reasons other than the provision of finance to either the customer or the entity, and the difference between those amounts is proportional to the reasons for the difference. For example, the payment terms might provide the entity or the customer with protection from the other party failing to adequately complete some or all of its obligations under the contract.

Further, AASB 15:63 has practical expedients whereby an entity need not adjust the promised amount of consideration for the effects of a significant financing component if the entity expects, at contract inception, that the period between when the entity transfers a promised good or service to a customer and when the customer pays for that good or service will be one year or less. It seems likely that this will apply for the majority of trade receivables.

The rest of this document will focus on how an entity could apply the 'simplified approach'. We will specifically focus on the 'simplified approach' for trade receivables with no significant financing component. As an example of the methodology that may be applied for the 'simplified approach', we will use a provision matrix as a methodology for measuring the expected credit loss.

Where appropriate, the same or similar approach could be adopted for contract assets with no significant financing component and certain lease receivables (typically operating lease receivables) because of their short term nature. However, care is needed for trade receivables and contract assets with significant financing components and finance lease receivables. A provision matrix might not be the most appropriate method in these cases. This is because a provision matrix is simpler to apply for shorter term receivables. Other methods may be more suitable for longer term receivables using more complex statistical methods.

Applying the 'simplified approach' using a provision matrix

For short term trade receivables, e.g. trade debtors with 30-day terms, the determination of forward looking economic scenarios may be less significant given that over the credit risk exposure period a significant change in economic conditions may be unlikely, and historical loss rates might be an appropriate basis for the estimate of expected future losses. A provision matrix is nothing more than applying the relevant loss rates to the trade receivable balances outstanding (i.e. a trade receivable aged analysis). For example, an entity would apply different loss rates depending on the number of days that a trade receivable is past due. Depending on the diversity of its customer base, the entity would use appropriate groupings if its historical credit loss experience shows significantly different loss patterns for different customer segments. Although it is a simplified approach, care should be taken in the following areas:

- **Determining appropriate groupings.** Where historical loss rates are used as an input, sufficient due diligence should be performed on the historical loss data to validate the completeness and accuracy of key parameters, including shared credit risk characteristics (for example maturity dates). If material to the result, a separate provision matrix should be applied to appropriate groupings of receivables based on shared credit risk characteristics. Entities should examine historical credit loss rates to identify if there are significantly different loss patterns for different customer segments. Examples of criteria that might be used to group assets include geographical region, product type, customer credit rating, collateral or trade credit insurance and type of customer (such as wholesale or retail). [AASB 9:B5.5.35]
- **Adjusting historical loss rates for forward looking information.** It should be determined whether the historical loss rates were incurred under economic conditions that are representative of those expected to exist during the exposure period for the portfolio at the balance sheet date. It is important to consider whether application of a loss rates approach is appropriate for the portfolio and whether the calculated historical loss rates have been appropriately adjusted to reflect the expected future changes in the portfolio condition and performance based on the information available as at the reporting date.

An illustrative provision matrix is shown below.

Trade receivables	0 days past due	30 days past due	60 days past due	90 days past due	More than 120 days past due
Loss rate	1%	2%	3%	20%	100%

It is fairly simple to state that loss rates need to be applied to a provision matrix. However, how are loss rates determined? To address this question, we provide a stepped approach for applying a provision matrix below. There are a number of ways in which an entity can go about building a provision matrix as AASB 9 does not provide any specific guidance.



Thinking it through

Step 1 Determine the appropriate groupings

There is no explicit guidance or specific requirement in AASB 9 on how to group trade receivables, however, groupings could be based on geographical region, product type, customer rating, collateral or trade credit insurance and type of customer (such as wholesale or retail).

To be able to apply a provision matrix to trade receivables, the population of individual trade receivables should first be aggregated into groups of receivables that share similar credit risk characteristics. When grouping items for the purposes of shared credit characteristics, it is important to understand and identify what most significantly drives each different group's credit risk.

Consider a telecommunication company that sells both handsets and network access on 24-month contracts. It might group receivables from wholesale customers and retail customers separately because they have different credit risk characteristics. Furthermore, it might group receivables related to handsets (representing a receivable due over 24 months) separately from receivables related to month-to-month network access charges because the risk characteristics related to the period of credit exposure will be different. It could then group each of the above sets of receivables by geography if it was relevant to do so.

On this basis, it might determine that a provision matrix is appropriate for only the trade receivables related to the month-to-month network access and that a different approach is needed for the trade receivables related to handset sales (which reflects a receivable over 24-months).

Furthermore, assume that two relevant geographical areas have been identified each with their own credit characteristics.

That would result in eight sub-groups with shared credit characteristics for the telecommunication company in this example.

Telecommunications company							
Geography 1				Geography 2			
Wholesale customer		Retail customer		Wholesale customer		Retail customer	
Handset receivables	Network charge receivables	Handset receivables	Network charge receivables	Handset receivables	Network charge receivables	Handset receivables	Network charge receivables
1	2	3	4	5	6	7	8

Step 2 Determine the period over which observed historical loss rates are appropriate

Once the sub-groups are identified, historical loss data needs to be collected for each sub-group. There is no specific guidance in AASB 9 on how far back the historical data should be collected. Judgment is needed to determine the period over which reliable historical data can be obtained that is relevant to the future period over which the trade receivables will be collected. In general, the period should be reasonable – not an unrealistically short or long period of time. In practice, the period could span two to five years.

Step 3 Determine the historical loss rates

Now that sub-groups have been identified and the period over which loss data will be captured has been selected, an entity determines the expected loss rates for each sub-group sub-divided into past-due categories. (i.e. a loss rate for balances that are 0 days past due, a loss rate for 1-30 days past due, a loss rate for 31-60 days past due and so on). To do so, entities should determine the historical loss rates of each group or sub-group by obtaining observable data from the determined period.

AASB 9 does not provide any specific guidance on how to calculate loss rates and judgement will be required.

Continuing with the telecommunications company example from Step 1, let's consider network charges for retail customers in geography 1. How would this entity go about calculating a loss rate?

Step 3.1 Determine the total credit sales and total credit loss over the selected historical period

Once an entity has selected the period over which it will collect data, it should identify the total credit sales made and the total losses suffered on those sales. The data captured over the relevant period should be combined and averages should be calculated. However, for simplicity the example used reflects information obtained for one financial year.

For example, assuming the telecommunications company used the data from its 2017 financial year, it determined the following:

- Total credit sales recorded in 2017: \$10,500,000
- Total credit losses relating to those sales: \$125,000

Once the total credit sales and credit losses are known, the relevant 'aging' needs to be determined. An entity will need to analyse its data to determine how long it took for it to collect all of its receivables (i.e. migration of balances through the ageing bands) and to determine the proportion of balances in each past-due category that was ultimately not received. To put it another way, what proportion of debtors that reach each past-due metric were ultimately collected? The reason this is done is to determine an expectation based on past history of the proportion of receivables that "go bad" once they get to a specific point past due.

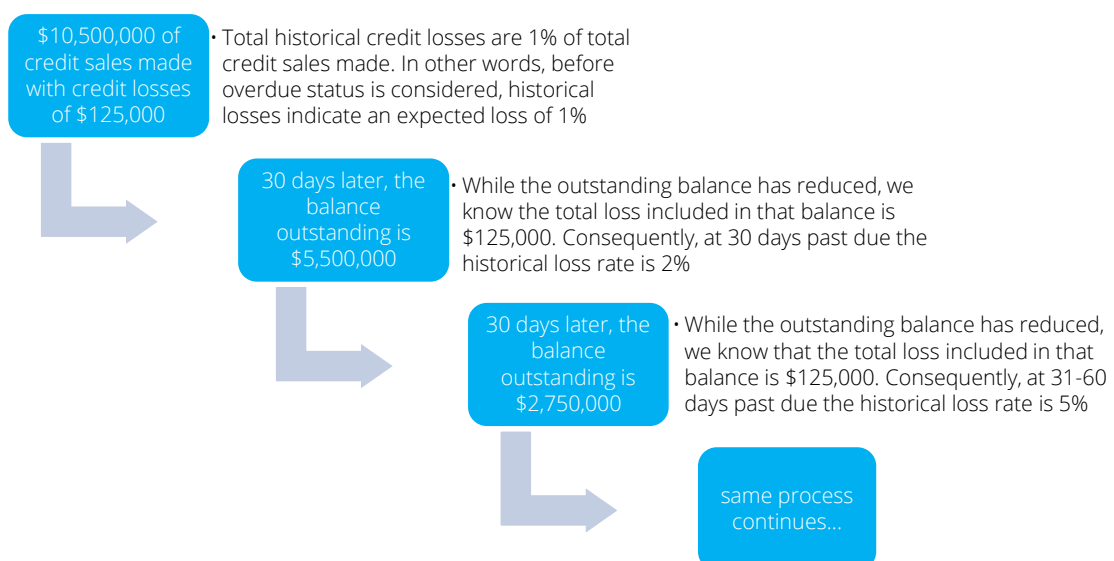
The analysis will require an accounting system to identify when a customer paid their credit sale invoice. This information is then sorted into the different timeframes as indicated in the table below.

Step 3.2 When was the cash received?	Opening balance	Amount received	Closing balance
0 days overdue	\$10,500,00	\$5,000,000	\$5,500,000
Between 1 and 30 days past due	\$5,500,000	\$2,750,000	\$2,750,000
Between 31 and 60 days past due	\$2,750,000	\$1,350,000	\$1,400,000
Between 61 and 90 days past due	\$1,400,000	\$750,000	\$650,000
Later than 90 days past due	\$650,000	\$525,000	\$125,000
Never paid (written off)	\$125,000	-	(written off)

Once the cash receipts have been analysed and the balances outstanding have been grouped, the historical loss rates should be calculated. The historical loss rate is calculated below by taking the total credit loss and dividing it by the balance outstanding in each aging grouping.

Step 3.3 Determine the historical loss rate	0 days past due	1-30 days past due	31-60 days past due	61-90 days past due	More than 90 days past due
Balances outstanding	\$10,500,000	\$5,500,000	\$2,750,000	\$1,400,000	\$650,000
Total credit loss	\$125,000	\$125,000	\$125,000	\$125,000	\$125,000
Historical loss rate	1%	2%	5%	9%	19%

The logic for dividing the total credit loss by the outstanding balance at each age band can be explained by following the loss allowance as it moves through the different aging bands. This is demonstrated below.



The calculation performed above follows one year's credit sales through the different aging bands to serve as an indicator of historical losses. At a reporting date, the trade receivable age analysis is a summary of how credit sales have progressed through the aging bands. In other words, it is a snapshot at a moment in time. Consequently, the historical loss rates calculated above serve as a good starting point for the estimate of expected credit losses under AASB 9.

The telecommunications company will have to repeat this exercise for each one of the sub-groups it identified in Step 1 for which it is appropriate to use a provision matrix to measure the expected credit losses.

Step 4 Consider forward looking macro-economic factors and conclude on appropriate loss rates

The historical loss rates calculated in Step 3 reflect the economic conditions in place during the period to which the historical data relates. While they are a starting point for identifying expected losses they are not necessarily the final loss rates that should be applied to the carrying amount. Using the example we have used throughout, the historical loss rates were calculated from the 2017 financial year. However, what if at the 2018 reporting date information was available that in one specific geographical region unemployment was expected to rise because of a sudden economic downturn and that increase in unemployment was expected to result in increases in defaults in the short term? In this circumstance the historical loss rates will not reflect the appropriate expected losses and will need to be adjusted. In this will be an area of significant judgement and will be a function of reasonable and supportable forecasts of future economic conditions.

To illustrate the need to update the historical loss rate we refer back to the historical loss rates calculated in Step 3. The last time that there was a significant downturn in employment in the specific region trade receivable losses increased on average by 20%. This could be based on an analysis of historical loss patterns compared to points in time in the economic cycle. It is worth noting that the increase of 20% may not necessarily be the same across all bands. For the purpose of this example we assume it is. Consequently, the historical loss rates would have to be increased by 20% to reflect the current economic forecast.

Updating historical loss rates for forward looking information	Current	30 days past due	60 days past due	90 days past due	Later than 90 days
Historical loss rate increased by 20%	1.2%	2.4%	6%	10.8%	22.8%

For illustration purposes there is only one adjustment to the loss rate to reflect the higher risk of credit losses arising from higher unemployment. Multiple adjustments may be needed to reflect the unique characteristics of the credit risk environment at the reporting date compared to the average historical loss rates in Step 3.

Once the rate is determined in Step 3 and adjusted accordingly in Step 4 for forward looking macro-economic factors, the rate then will be used to measure the expected credit loss in a manner that is consistent with the groups for which the rates were determined.

Step 5 Calculate the expected credit losses

The expected credit loss of each sub-group determined in Step 1 should be calculated by multiplying the current gross receivable balance by the loss rate. For example, the specific adjusted loss rate should be applied to the balance of each age-band for the receivables in each group. Once the expected credit losses of each age-band for the receivables have been calculated, then simply add all the expected credit losses of each age-band for the total expected credit loss of the portfolio. If we assume a trade receivable balance outstanding at the reporting date of \$1,652,000 and an age analysis as detailed below, the expected credit loss would be calculated at \$55,416. The table below illustrates how the ultimate expected credit loss allowance would be calculated using the loss rates calculated in Step 4.

Determine the expected credit loss	0 days past due	1-30 days past due	31-60 days past due	61-90 days past due	More than 90 days past due	Total
Balances outstanding at reporting date	\$875,000	\$460,000	\$145,000	\$117,000	\$55,000	
Expected credit loss rate	1.2%	2.4%	6%	10.8%	22.8%	
Expected credit loss allowance	\$10,500	\$11,040	\$8,700	\$12,636	\$12,540	\$55,416

Final thoughts

The new impairment requirements will affect almost all entities and not just large financial institutions. Where entities have material trade receivable, contract asset and lease receivable balances care is needed to ensure that an appropriate process is put in place to calculate the expected credit losses.

Furthermore, the effort required to implement the enhanced disclosure requirements related to credit risk in AASB 7 *Financial Instruments: Disclosures* should also not be underestimated. Entities should consider what level of disclosure will be required, especially in the first year of applying AASB 9. It will be important for users of the financial statements to understand any increases in impairments, accounting policies applied and significant areas of judgement applied in adopting AASB 9.

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