In depth
A look at current financial reporting issues

IFRS 9 impairment practical guide: provision matrix

At a glance

IFRS 9 requires entities to recognise expected credit losses for all financial assets held at amortised cost or at fair value through other comprehensive income, including accounts receivable balances.

This practical guide provides guidance for corporate engagement teams on IFRS 9's impairment requirements for accounts receivable. In particular, it considers how expected credit losses could be estimated through the use of a provision matrix.

Background

Expected credit losses for accounts receivable

IFRS 9 significantly changes the methodology required for impairment provisioning on all financial assets held at amortised cost or at fair value through other comprehensive income, including accounts receivable balances. The overall approach within the standard is to replace the 'incurred loss' model required by IAS 39 with an 'expected loss' model – in effect, moving from a position of provisioning only when a loss has occurred to one which considers forward-looking information to calculate expected credit losses, regardless of whether there has been an impairment trigger.

There is a wealth of technical material that considers the detailed accounting requirements of IFRS 9: this includes PwC's Manual of Accounting, with frequently asked questions, and various In depth and In brief guides.

This guide considers the theoretical concepts with regard to the impairment of accounts receivable under IFRS 9, and it provides some practical insights. The phrase 'accounts receivable' includes trade receivables, contract assets and lease receivables for the purposes of this guide. In addition, this publication considers some of the challenges that entities might face on implementation, and it suggests some of the audit considerations that should also be considered as part of transition.

Content index

This guide includes the following frequently asked questions about the scope of the IFRS 9 impairment model, and it describes how to calculate expected credit losses under the simplified approach using a provision matrix:

Setting the scene:

- What balances are likely to be 'accounts receivable'?

- What accounts receivable balances might not be subject to IFRS 9 impairment?

- How do the IFRS 9 impairment rules for trade receivables and contract assets interact with the IFRS 15 revenue recognition requirements?

Where to begin:

- What does IFRS 9 mean by the 'simplified approach'?

- How should a group with several business units apply a provision matrix?

Historical data:

- What type of historical data should an entity collect?

- Can entities make a specific provision against a particular customer?

- If an entity's credit control policy requires letters of credit or credit insurance, does this mean that it does not need to record a provision under IFRS 9?

- What if an entity does not collect this detailed level of data, or cannot access the information in a cost-effective way?

- What if an entity does not have the necessary data because it is a start-up or moving into a new market?

- Are there any other methods that an entity might use to gather enough data to calculate lifetime expected credit losses on its accounts receivable?

- How might an entity calculate a provision for an IFRS 15 contract asset?

- What steps should be taken to audit this information?

- What if an entity has never experienced defaults or instances of non-collection?

Other:

- How could management incorporate forward-looking information?

- What do entities need to consider with respect to controls and processes?

- What is the impact on the current year's financial statements?

- Are there any additional disclosures required?

pwc

Setting the scene

The purpose of this specific guide is to consider the implementation of IFRS 9 in the area of impairment for 'accounts receivable', the most significant of which is likely to be trade receivables for many non-financial institutions. Amongst other things, IFRS 9 introduces a new approach for the classification and measurement of all financial assets which will affect whether balances are within the scope of the impairment guidance; further guidance on this topic is available in chapter 42 of PwC's Manual of Accounting, but this is not the focus of this guide. It is generally expected that most accounts receivable will continue to be carried at amortised cost, and that entities will therefore use the simplified approach permitted by IFRS 9 for calculating the expected credit loss. This simplified approach requires the calculation of a lifetime expected credit loss (or impairment provision), and it is often applied by developing a provision matrix. A detailed worked example of how to calculate a provision matrix is given in the Appendix to this guide.

What balances are considered to be 'accounts receivable', and are therefore subject to the IFRS 9 impairment model and likely to be able to benefit from the 'simplified approach'?

Clearly, normal trade receivables will be included when assessing impairment for accounts receivable.

However, in addition, contract assets as recognised under IFRS 15 are also within the scope of impairment under IFRS 9. This includes those assets that might be described as 'unbilled receivables' or 'accrued income' and any variable consideration. Therefore the expected credit loss approach to impairment, and the model discussed in this guide (that is, a provision matrix covering lifetime expected credit losses), will apply even before a customer is invoiced. This is likely to be a change for some entities, because accruals of this nature might be outside the entity's traditional receivables ageing reports. The entity will need to develop an appropriate method for calculating the expected credit loss – see the later section of this guide.

Further, lease receivables (finance lease receivables and any assets arising under operating leases) also need to be assessed under the IFRS 9 impairment model.

Other financial assets, such as loans (both inter-company and external to the group), investments in funds, guarantees or most items currently classified as 'other' receivables in financial statements, will also be subject to the IFRS 9 impairment rules (unless they are carried at FVTPL – see below), but they will have to comply with the general model, where initially only a 12-month expected credit loss is recognised, but monitoring for significant increases in credit risk is required and, at that point, a lifetime expected credit loss would be recognised (see chapter 45 of PwC's Manual of Accounting and In Depth 2018-02 'IFRS 9 impairment practical guide: inter-company loans in separate financial statements' for further details on those requirements).

What accounts receivable balances might not be subject to the IFRS 9 impairment rules?

Care should be taken if an entity undertakes factoring, invoice discounting or other activities that result in the entity collecting the cash for accounts receivable from someone other than the original debtor. Depending on the specific circumstances, trade receivables could be classed at either fair value through other comprehensive income (FVOCI) or fair value through profit and loss (FVTPL), instead of amortised cost. The IFRS 9 impairment model is still relevant for receivables classed as FVOCI,

and impairment will need to be recognised in the income statement, but it is not considered separately for those carried at FVTPL. The full fair value movement (that is, including any changes with respect to credit risk) will be recognised in the income statement for those items carried at FVTPL. PwC's Manual of Accounting, at chapter 42 para 42.31 and FAQ 42.31.6, offers guidance on the impact of factoring on classification and measurement under IFRS 9.

Other accounts receivable that might not be carried at amortised cost are those subject to provisional pricing – for example, where the final amount receivable is based on the price of a commodity sold at the date of settlement (See PwC's Manual of Accounting at chapter 11 para 11.295 and FAQ 11.295.3). This type of receivable fails the test that IFRS 9 refers to as 'solely payments of principal and interest' (SPPI), because the return also varies with commodity prices, and so it is carried at FVTPL.

Any accounts receivable, contract assets or lease receivables carried at FVTPL – for the reasons above or because they fail the business model or SPPI test for another reason – will not need to be assessed for impairment under IFRS 9.

How do the IFRS 9 impairment rules for trade receivables and contract assets interact with the IFRS 15 revenue recognition requirements?

It is important to think about what factors could change the amount paid by a customer, and why, when assessing what is within the scope of IFRS 9. Losses arising as a result of credit risk (that is, the customer not paying through default) are those that are relevant under IFRS 9. Therefore, when proceeding to develop a provision matrix, it is this credit risk experience that is important.

The initial amount of variable consideration recognised as revenue under IFRS 15, and consequently as a trade receivable, does not take into account credit risk, unless there is a significant financing component. Similarly, where changes occur after initial recognition as a result of customer disputes, discounts provided or other inefficiencies, these are subject to guidance in IFRS 15 which should be applied prior to IFRS 9. One example, in relation to accounts receivable, could be an entity where there is an outstanding debtor balance disputed by the customer due to the quality of the product provided. The customer subsequently returns the product and the receivable is then removed from the balance sheet. In these circumstances, care should be taken to ensure that the return is excluded from the historical analysis used to calculate expected credit losses under IFRS 9.

This example shows that, where entities have historically not tracked credit losses separately from other reductions in cash received/revenue recorded, the data might need to be re-examined to isolate what is relevant for IFRS 9.

Where to begin

What does IFRS 9 mean by the 'simplified approach' to calculating expected credit losses?

For trade receivables (as well as contract assets and lease receivables), the standard provides a simplified approach for calculating the expected credit loss. This allows entities to dispense with the full general (that is, three-stage) impairment model. However, where any 'accounts receivable' contain a significant financing component (normally, where the standard terms extended to the customer exceed 12 months), an entity has a policy choice between the simplified or three-stage model. The remainder

pwc

of this guide will only consider the application of the simplified approach; further guidance is available on the implementation of the three-stage model in chapter 45 of PwC's Manual of Accounting.

Under the simplified approach, at initial recognition of each accounts receivable balance and throughout its life, a lifetime expected credit loss should be recognised in order to arrive at the appropriate impairment under IFRS 9.

There are various methods to calculate a lifetime expected credit loss, but a suggested method in IFRS 9 for trade receivables is through the use of a provision matrix. This method is not mandatory, but it is expected that many non-financial institutions will adopt this approach. A detailed worked example of a provision matrix is included in chapter 45 of PwC's Manual of Accounting at FAQ 45.13.2, and this has also been replicated in the Appendix to this guide.

> ### *Example – Hawkins Petroleum plc*
>
> *Throughout this publication, we will consider the application of a provision matrix for a fictional entity, Hawkins Petroleum plc (HP). HP is implementing IFRS 9 from 1 January 2018. It is a diversified oil and gas group with operations in differing locations around the world. At present, HP's management is working through its IFRS 9 implementation plan, but it is still finalising its proposed methodology for impairment of accounts receivable.*
>
> *At the previous year end, HP's accounts receivable balance was £542m, and the entity held a provision for bad debts of £24m. In the previous year, the audit overall materiality was £10m. The engagement team has performed its initial risk assessment for the audit for the current year and, whilst IFRS 9 is likely to have an impact on the entity's financial assets, it has concluded that the disclosure in the current year, or the impact in 2018, will not be significant. As such, it has concluded that no elevated or significant risk exists with respect to the change in impairment for accounts receivable under IFRS 9.*

At what level (such as head office, division or individual receivable) should a large group with several different business units consider and apply a provision matrix approach?

There is an element of judgement to be applied by groups to determine how they implement a policy for impairment of accounts receivable across their group. If appropriate, one approach could be full control of the provisioning process at the group finance level, setting judgements and assumptions across the group as a whole. Alternatively, a decentralised model could be adopted, with each entity or business area making its own assessments and judgements. Both approaches have their merits and drawbacks, and which is the best will likely be driven by the facts and circumstances of the group's business. Where the group includes autonomous subsidiaries or customers that operate in differing markets, a decentralised approach might be the most appropriate, with some oversight from the centre. However, where businesses are similar and there is a consistent customer base across the group, a centralised model might be more appropriate, to ensure that consistent judgements are being applied in the calculation of impairment.

In addition, care is needed, since the above approach only considers the position in the consolidated group accounts. If an aggregate assessment is made at a group level,

further assessments would be required to support the classification within individual statutory accounts.

When considering an entity's approach, consideration needs to be given to its judgement and approach to ensure that it takes into account the relevant factors of the entity's business.

> *HP splits itself into three large operating divisions: Upstream, Downstream and Supply & Trading. Under each division, there are several business units split between geographical locations or markets. There is limited overlap of customers between divisions, but broadly within each division the business trades with consistent customers in each respective territory or market.*
>
> *Group Finance has concluded that the most appropriate approach would be to adopt a partially decentralised approach to impairment provisioning of accounts receivable. Business units will be expected to calculate an impairment charge using a provision matrix approach, and then apply judgemental overlays to take into account their future expectations of credit risk. Each divisional finance team will then review and compare positions across business units to ensure consistency in provisioning levels. These will then be aggregated at a group level.*

In order to calculate loss ratios required for a provision matrix, a two-stage approach will likely be undertaken. The first stage is the consideration of historical experience of losses that have been incurred (that is, accounts receivable balances that have not been collected). The second stage is then to consider the future, and whether the historical experience is likely to persist or whether other factors should influence and adjust the levels of impairment recognised.

Historical data

What type of historical data should an entity collect to develop a provision matrix?

The first step is for an entity to gather information on past history of uncollectable accounts, and generally the profile of payment within its accounts receivable balances. This could be a period of one year, three years or even longer, dependent on the typical business cycle of the entity. Linked to the section above in assessing portfolios, we would expect entities to take this data and split accounts receivable balances into different populations before applying the provision matrix. This could be based on geographical regions, product type, customer ratings, collateral (letters of credit or trade credit insurance), and the nature of the customer (for example, wholesale versus retail). In all cases, the objective is to try to understand the drivers of credit risk for the underlying receivables. For example, one population could be product A in region B being sold to customer type C. The level of segmentation required is a matter of judgement and, in developing segments, the entity should consider whether further segmentation would be expected to lead to only immaterial changes.

> *Within the HP Upstream division, the business is split into two individual businesses: exploration; and development & production. In both businesses, it has looked to consider how to most appropriately group its accounts receivable to take into account the drivers of credit risk. It has concluded that the size of the customer and its ultimate geographical area are the best determinants of credit*

pwc

> *risk.*
>
> *HP has split the size of customer into two broad categories: large established businesses (that is, around 1,000 employees or more); and small / medium-sized businesses. In terms of geography, it has again settled on two categories: entities with ultimate headquarters in OECD countries; and other countries. This has created four differing provision matrices within each business. In addition, where there are specific instances of problem customers, individual provisions will also be created.*
>
> *HP did consider whether further subdividing the data was required; however, based on historical experience, it concluded that further groupings would not arrive at a materially different answer. The audit team of HP reviewed management's analysis made to support this conclusion and agreed with the course of action. This was then clearly documented within their audit file, and discussed with management that this judgement would need to be refreshed at each reporting period.*

Can entities make a specific provision against a particular customer?

In some cases, the population might be as specific as individual customers. For example, where a particular customer is known to be in financial difficulty, it might require an increased or specific provision compared to historical averages. In such a scenario, it is important to consider and avoid any double counting of losses as a result of the balance being provided for specifically and also being included within the wider general provision default rate for that customer type.

If an entity's credit control policy requires it to obtain letters of credit or credit insurance, does this mean that it does not need to record a provision under IFRS 9?

IFRS 9 is clear that 'credit enhancements', the term it uses to refer to collateral posted or the effect of insurance taken out, cannot be used to justify an assumption that there is no probability of default. However, provided that the credit enhancement is integral to the receivable, which typically means that it has to be taken out at the same time, it can be considered when looking at how big any loss might be on the receivable.

Letters of credit and credit insurance might help to reduce the probability of default (PD) to that of the letter of credit/insurance provider, or reduce the loss given default (LGD), dependent on whether the letter of credit/insurance reduces the likelihood of default, or mitigates the loss after a default has occurred.

Therefore, so long as the entity's insurance company or the bank supplying the letter of credit has a high credit rating itself, the risk of a significant loss on that customer should be mitigated. A provision should still be calculated, but it might be much smaller than without the 'credit enhancement' (see chapter 45 of PwC's Manual of Accounting at FAQ 45.73.1).

What if an entity does not collect this detailed level of data, or cannot access the information in a cost-effective way?

It would be very unusual for an entity to have no historical data on collection of accounts receivable. The information required might not be readily available within

the accounting team but, in the wider finance function or business, such information is likely to exist. As well as the core accounting system, there might be information in a separate billing system, customer relationship management or equivalent sales system, or within a credit control system.

Even if the information does exist, it might be in a format that is challenging for an entity to aggregate and summarise, to provide a full and complete payment history on which to base its historical collection experience. Whilst it might be complicated and difficult, that does not relieve the entity from estimating an expected credit loss on accounts receivable.

Like any accounting estimate, the level of information and documentation that the entity provides to support its position and judgement affects the level of work that an auditor would have to independently undertake in order to obtain the required audit evidence and challenge the decisions that the entity has made.

Therefore, where there are challenges with respect to data availability or ease of collection of such data, an entity could undertake a sampling approach and track the payment profiles and uncollected debts of a subset of its total population. It could do this by grouping customers with similar characteristics, as described above, and then picking a sample of individual customers within each group to consider their specific payment profile. Assuming their groupings do share similar credit risks, these individual payment profiles could then be used as an estimate for each group as a whole. Care would need to be taken to ensure that groups selected are reasonable, based on materiality, and that a sufficient sample is inspected to allow for it to be concluded that the sample is representative of the whole group.

In such a scenario, the auditor would need to ensure that appropriate consideration is given to the approach taken; in particular, it would need to consider and test whether any of the remaining data not considered in the analysis contradicts the assessment and conclusions. In such a scenario, the entity would need to ensure that it gathers and retains the relevant data required for the provision matrix going forward, with this simplification only to support its historical data challenges.

In HP Downstream, within the aviation fuel business unit there has been an implementation of a new enterprise resource planning (ERP) system, called 'TAP', in the period. The old system was decommissioned and, while some payment data was retained, it is complex to access and not available in a total summarised report. Management has therefore grouped its accounts receivable based on its assessment and understanding of what it deems to be the drivers of credit risk, namely size and any customer-specific factors. These are:
  Group 1 – large international airlines groups (that is, Air Britain, French Airways, Epsilon);
  Group 2 – regional/national airlines (that is, Southeast, Branson Australia);
  Group 3 – regional/national airlines with trade credit insurance (that is, Markair, simpleJet);
  Group 4 – private charter/small business; and
  Group 5 – specific customers (that is, Italian Airlines, Crown).

For each of the above groups, the following information and approach have been taken by management:
  Group 1 – 20 customers – AR @ 31/12/16: £45m – sampled 5 customers
  Group 2 – 86 customers – AR @ 31/12/16: £12m – sampled 7 customers
  Group 3 – 54 customers – AR @ 31/12/16: £9.5m – sampled 12 customers
  Group 4 – 450 customers – AR @ 31/12/16: £2.5m – sampled 12 customers

<div style="background:pink">

Group 5 – 5 customers – AR @ 31/12/16: £7.25m – sampled all customers

Following the sampling approach, management has arrived at payment patterns and bad debt profiles for each of the above groups based on their historical experience. Where trade credit insurance has been taken out in relation to specific receivables, those receivables have been assessed separately, and the extent to which the trade credit insurance mitigates credit risk will be taken into account in the expected credit loss. Management's next step will then be to consider whether this is likely to be reflective of their future experience.

NB The above sample sizes are not necessarily reflective of PwC Audit sampling methodology; rather, they have been determined by the entity prior to consultation with their auditors.

</div>

What if an entity does not have the necessary data because it is a start-up or moving into a new market?

Where the entity is entering into a new line or area of business, or engaging with new customers, there are different approaches that could be undertaken to estimate the initial impairment provision. This could be in making a judgement that other experience that it has is also relevant for this new product line, because the customer base and its likely credit risk are similar to an existing product line. Alternatively, the entity could look to consider external information, either generally or industry-specific, to inform its initial thinking on an assessment of credit risk. A good place to have these discussions could be with the credit department, which is likely to need similar information in extending initial credit to new customers.

Are there any other methods that an entity might use to gather enough data to calculate lifetime expected credit losses on its accounts receivable?

The use of a provision matrix is not mandatory, but it is a common method. Other potential methods would include customer-by-customer analysis where the entity has a small number of large contracts, application of expected loss rate linked to credit default spreads ('CDS') – that is, market-based derivative instruments that provide insurance in the event of default of a country or company – of the country of residence of customers for online retailers, application of dedicated analysis for the main customers, and application of a provision matrix to the residual batch of smaller customers.

How might an entity calculate its expected credit loss provision for a contract asset recognised under IFRS 15?

For contract assets such as unbilled receivables, under IAS 39 a bad debt provision was, in many cases, not recognised. Since the bill had not yet been raised, there was no objective evidence that the customer could not pay their bill, and so the receivable was not impaired. Because IFRS 9 requires an expected credit loss to be recognised on contract assets, there might be a lack of historical credit risk information.

On transition, one approach might be to consider that the collection (and therefore the bad debt) profile will mirror the overall trade receivables portfolio. This approach might overstate the provision, because the credit risk factors associated with the trade receivables might not all be applicable to the contract assets. Alternatively, since the contract assets have not yet been invoiced, the entity could take the view that these all have the same likelihood of experiencing credit losses as the current receivables. For

example, all contract assets have a comparable likelihood of not being recovered as accounts receivable which have just been invoiced or are not yet due. This approach might understate the provision, because it does not take into account the ageing or population of the contract assets.

The most appropriate approach to take on transition will be dependent on the facts and circumstances of the entity and its contract asset portfolios. For both approaches, the contract assets portfolio should be actively monitored, following transition, to develop a more accurate expectation of future credit losses.

In some jurisdictions, there might also be regulations in place designed to protect consumers from long-dated bills yet to be invoiced; for example, any bill not raised within 90 days might be prohibited by law from being raised at all. Such a regulation would drive a write-off policy of unbilled receivables over 90 days. (See chapter 11 of PwC's Manual of Accounting at FAQ 11.295.1 for further considerations on contract assets.)

What steps should be taken to audit this information?

The steps and approach to auditing the historical information used in a provision matrix under IFRS 9 are no different from the way in which any other input to an estimate or judgement would be audited. An understanding is needed of the entity's process, the methodology that it has adopted, the source of its data, and how it has arrived at its position. Areas to consider include:

- Data: What is the source of the data used as part of the provisioning calculation? Is this from a system that we already have as part of the audit scope for Information Technology General Controls ('ITGCs'), and is there a new report that we need to consider and test? Does it create a new IT dependency, and does this change the nature and requirements of the current ITGC testing? Should a walkthrough be performed of the process to generate the data, to understand the information flows and to document any relevant controls? If this is coming from a new system, do we need to consider whether we would want to undertake ITGC work, or will we plan to test the data within the report substantively back to source information (that is, bank statements / invoices), or systems where we already have controls evidence?
- Methodology: How has the entity arrived at its methodology for assessing historical data? Has it used a complete set of data for all customers? From what period of time has it considered data? Is this appropriate, based on the payment profile and standard business practice in the industry? If a sampling approach has been undertaken, how has the entity split its accounts receivable into different groups? Are the groupings reasonable and based on an assessment of the credit characteristics of customers? Are there sufficient groupings based on the total population and materiality? Have we looked for customers not used in the sample to assess and challenge the approach?
- Execution: Have we reviewed and checked the entity's calculations, to ensure that the input data is complete and accurate? Are there any errors in the entity's calculations or workings? If the entity has grouped customers, have we checked to ensure that they have been included and classified correctly in the right group? Are we aware of any specific accounts receivable balances that might need to be considered separately, due to current increases in credit risk?

In order to answer some of the above questions, we will need to undertake substantive testing, likely on a sample basis; and, in doing so, we use our core standard approaches of target testing, non-statistical sampling and accept-reject as appropriate.

pwc

The engagement team of HP Downstream have considered the approach undertaken by the aviation fuel business unit. They have reviewed the paper prepared by management that details their basis of undertaking a sample-based approach for the review of their historical data. In the current year, they expect their component materiality within this business unit to remain broadly consistent with the prior year, and therefore would be £2m.

Management has performed a dry run of its analysis on data as at 30/09/2017, and it has provided the results to the engagement team during the interim audit. It has done so to allow the audit team to agree an approach and to feed back any observations in advance of its use for the balances on transition. It has used two years' worth of data in its analysis.

The engagement team have concluded that they agree with the groupings proposed by management. They did initially challenge management on its approach for Group 3, because the grouping seemed rather large (450 customers) and it had only sampled 12 (lower than our accept-reject methodology would consider appropriate). However, it was concluded that, because the outstanding debtor balance for this group remains broadly at £2.5m, and materiality is £2m, it is highly unlikely that there could be a risk of material misstatement, since almost all of the debtors would need to be impaired.

They have therefore performed the following audit procedures:

1. *Obtained a listing of the accounts receivable balances and customers as at 30/09/2017.*
2. *From the total listing of customers, performed accept-reject testing on a sample of 16 to ensure that they have been included within the appropriate category (for example, if they are in Group 2, they do represent regional/national airlines).*
3. *For each of the customers included within management's sample, obtained the relevant reporting from the decommissioned system showing their payment history and any uncollected debts.*
4. *In addition, performed accept-reject testing on an independent sample of accounts receivable balances by agreeing the payment history and any uncollected debts to reporting from the decommissioned system and to cash.*
5. *For each of the receivables for which there is trade credit insurance, obtained the trade credit insurance agreements. Reviewed key clauses in the agreement to ensure that the trade credit insurance is specific to the related accounts receivable and to understand the extent to which credit risk is mitigated for those receivables by the trade credit insurance.*
6. *Agreed the payment data back to underlying reports from the banking system over which the team has controls evidence.*
7. *For those balances listed as uncollected, agreed their write-off balance to the general ledger.*
8. *Obtained management's calculation and recalculated it to ensure accuracy.*

Based on the procedures above, the team have concluded that the historical data used as the starting point for the provision matrix is complete, accurate and reasonable.

What if an entity has never experienced defaults or instances of non-collection?

Even if an entity has never experienced historical defaults, a provision based on expected losses will still be required. In such circumstances, entities might look to derive probabilities of default and loss rates from external credit ratings, industry-specific data, credit bureaux, or other credit data sources. In addition, it is likely that all entities will have some form of credit risk policy and controls in operation, setting limits on the level of sales / accounts receivable for differing counterparties.

The credit risk policy and controls might be a good place to find further information that an entity has already prepared regarding its assessment of the creditworthiness of counterparties. In such circumstances, based on the limits imposed we might be able to understand and challenge an entity's own assessment (for example, an entity might be less willing, or might have a lower internal credit limit against some counterparties compared to others that might share certain factors, such as size or credit rating) and use this to draw conclusions between counterparties where actual losses have not been previously incurred.

Although low historical defaults do not mean that no provision will be required, entities should still consider the level of actual profit or loss write-offs over the last few years, assuming a constant level and type of sales activity, because this does provide good historical evidence of losses. That historical data should then be supplemented by forward-looking information.

Building in forward-looking information

The second stage in the creation of a provision matrix is to consider whether the historical experience is reflective of the future, and whether provision levels or default rates should be changed based on factors in the wider economic environment. This could be as simple as changes in the unemployment rate, interest rates or economic growth, and how this would be expected to flow through to provisioning factors. Management will need to do an assessment – based on its historical experience, understanding of the industry and its customer base – to determine what factors are likely to have the greatest impact on its levels of uncollected accounts receivable.

How could management incorporate forward-looking information?

Generally, we would expect management to tailor the forward-looking information to be incorporated into the model to those factors that impact its customer base the most. These could be general trends and changes in the economy, such as inflation/growth rates, unemployment rates, interest rates or FX rates. In addition, there could be further industry- or geography-specific indicators that might have a significant impact on inferring future default levels. These indicators might differ for each group of assets, depending on the industry and geography of those specific groups.

Management would also be expected to consider information at the customer level. For example, if a customer is overdue on one invoice, it might be more likely that a current invoice will default, so that the current invoice might now have a higher probability of default.

One approach might be for an entity to look for historical correlation between macro-economic factors (such as unemployment rates) and the loss rate experienced historically. If there is such a correlation, and unemployment is forecasted to be higher or lower than the historical average over the period during which losses have

been observed, an adjustment would then be made to the historical amounts (for example, expected higher unemployment might mean that the provision applied to current receivables needs to be increased). IFRS 9 expects companies to consider alternative scenarios, to develop a probability-weighted outcome, although this would have a greater impact on longer-dated financial assets subject to the general model. Therefore, in some cases, an entity might use scenario analysis, reflecting different possible future outcomes for the correlated variable. Further detail on this approach is given in chapter 45 of PwC's Manual of Accounting.

In establishing a link to economic data, further complexities might arise due to 'lag'. Consider an electricity provider, for example. A rise in unemployment might not trigger an immediate increase in defaults, because customers prioritise paying electricity bills over other discretionary expenditures. The increase in unemployment might only trigger a rise in loss rates if, for example, it is sustained for a six-month period. This 'lag' is another variable to consider in historical correlation analysis with economic variables.

In HP Downstream, within the aviation fuel business unit, management has considered some of the wider economic factors that impact its business and the ability of its customers to pay their debts. It has considered the wider industry of its customers, reviewed their historical reasons for bad debt write-offs, and concluded on three key indicators in assessing the future potential for customers to pay their accounts receivable balances.

The indicators selected are:

1. *Oil price – For most airlines, the cost of oil has a direct impact on their profitability, because it is usually one of their largest costs. In times of high oil prices, HP has experienced higher levels of default from customers in its aviation fuel business.*
2. *US Dollar – Since oil is priced in dollars, not only the underlying movement in the oil price but also the strength of the US Dollar when compared to other currencies has an impact on its customers' ability to settle outstanding accounts receivable balances.*
3. *The International Air Transport Association ('IATA') publishes monthly data on load factors (that is, the number of seats occupied on flights). In times or areas where load factors are low, this could suggest an over-supply of flights or lack of demand from the customers of our customers, and it could therefore impact airline profitability and the ability of customers to pay their debts.*

Management considered each of the above factors, and how they have moved when compared to the period of the historical data available. In this qualitative assessment, it noted that all factors were strong correlators with future bad debts, in particular the oil price; however, in all cases, there was at least a six-month lag between a negative movement in the indicator and an impact on bad debts. At present, all of the indicators are in normal ranges, other than the IATA data on short-haul air routes where there are certain negative trends in load factors that have persisted for in excess of six months. Management has then made a judgemental overlay to the historical data for Group 2, to take into consideration the above factor. A more complex mathematical model could have been implemented to estimate the quantitative impact of the above factors on uncollected debt levels, but this has been deemed not to be required, based on materiality of accounts receivable and historical bad debt levels, even in times of market stress.

In addition, customer-specific factors have been taken into consideration when estimating the expected loss on the Group 5 customers. For example, Italian Airlines is now in formal bankruptcy; there were a number of initial interested parties in the business but, with recent news that some have pulled out of any takeover, HP has provided 100% for the current outstanding balance.

Systems or processes might not have been established to gather data in the above manner, and therefore some entities will require system changes or new reports to be generated, to help in establishing the matrix.

Governance, process and controls

Like any change in an entity's business process, whether for a new accounting standard or other business reason, management needs to ensure that there is the appropriate level of governance and control. Since the IFRS 9 impairment model is substantially different from IAS 39, and requires different estimates and judgements to be applied, it would be expected that new and different internal control procedures will be required.

Entities should consider the need for new internal controls over the impairment model and where these controls will be performed within the group. Some of the controls might need to be implemented outside the financial reporting group (for example, in the collections or credit management group of different business units), and other controls might be implemented centrally.

Such controls would likely also involve back-testing of losses experienced to the established provisions, and determining whether changes to the provisioning methodology, additional correlations to economic indicators or enhanced grouping/segmentation of customers are required. The aim of back-testing is a continuous improvement in the robustness of the model; but it does have limitations, due to the continuous changes in the economic environment.

What do entities need to consider with respect to controls and processes?

If an entity has had challenges with respect to the provision of historical data required to estimate the impairment charge, we will need to consider whether it merits reporting to those charged with governance as a gap in internal control. If it is not deemed significant, we might still want to clearly communicate with management, to ensure that the appropriate systems and processes are implemented to record the relevant data, to make impairment of accounts receivable simpler and more efficient in future years.

Final thoughts

What is the impact on the current year's financial statements (if the entity's year end is 31 December 2017)?

In accordance with IAS 8, entities need to include and disclose, in the notes to the financial statements, the impact of new standards that have been published but not yet come into effect. This disclosure will therefore apply for all entities applying IFRS 9 from 1 January 2018, and it should include the impact of all elements of the standard, including impairment for accounts receivable.

The standard expects discussion on the proposed impact and a quantification of that impact on the financial statements. Therefore, it would be expected that, if material, disclosure is included of the impact of applying IFRS 9 to accounts receivable in the current year's financial statements. If management has concluded that it is immaterial, it would be still expected that some qualitative disclosure is included that discusses the process undertaken by the entity to support its conclusion, and why there has been no material impact.

Are there any additional disclosures that an entity needs to make in interim financial statements in 2018 or for next year's financial statements (if its year end is 31 December 2018)?

The main disclosure requirements for interim financial statements stem from IAS 34, 'Interim financial reporting'. There are no specific explicit changes to those requirements as a result of IFRS 9; however, there are existing requirements in relation to disclosure of significant events, transactions or notes describing changes and differences from the prior annual financial statements. Therefore, for non-financial institutions, the nature of the disclosures will be driven by the facts and circumstances of the entity's business and the materiality of the changes required for the entity.

For the first set of full financial statements under IFRS 9, there are additional requirements stemming from amendments to IFRS 7 disclosures generally, and in particular concerning credit risk, that will have an impact on impairment of accounts receivable. More extensive disclosure is required about an entity's credit risk management practices and how they relate to the recognition and measurement of expected credit losses.

For entities adopting and applying the provision matrix approach, the standard allows some of the disclosures to be based on provision matrix data as a simplification. There will be additional effort in gathering the relevant data to populate these disclosures, and so entities should start now and work to make sure that systems and processes are designed to capture the information.

Appendix

FAQ 45.13.2 – Example of a provision matrix for corporates

Question:

A non-financial entity has trade receivables of CU140 that do not have a significant financing component at the reporting date. The entity wants to use a provision matrix to determine the lifetime expected credit loss (ECL) for its trade receivables, as permitted by IFRS 9. It is proposing to analyse its trade receivables into time buckets and apply a standard historical loss rate to those time buckets as illustrated below:

	Total receivables	Current	30–60 days	60–90 days	After 90 days
Trade receivable balances at reporting date: [1]	CU140	CU50	CU40	CU30	CU20

pwc

Loss rate: [2]		3%	3%	3%	3%
Expected credit loss: [1] x [2]	CU4.20	CU1.50	CU1.20	CU0.90	CU0.60

Can the entity use the above approach to determine its IFRS 9 ECL provision?

Solution:

No, not necessarily. This is because, to the extent that reasonable and supportable information is available without undue cost or effort, a provision matrix for IFRS 9 purposes should reflect:

- relevant forward-looking information; and
- different loss rates for different time buckets of receivables, because older receivables would be expected to have a lower probability of settlement and hence a higher loss rate.

In addition, depending on the diversity of its customer base, the entity should use different provision matrices for different groups of receivables on the basis of shared credit risk characteristics. This would be the case if historical (and/or forecast) credit loss experience shows significantly different loss patterns for different customer segments. For example, receivables might be grouped by geographical region, product type, customer rating, collateral or trade credit insurance, or type of customer.

IFRS 9 is not prescriptive about how to develop a provision matrix. One approach is illustrated below. However, other approaches might be appropriate, provided that they are consistent with principles in IFRS 9.

Step 1: Define the period of sales and bad debts related to those sales

For each group of receivables, the entity defines a historical period of sales, and then it determines how much of the receivables in respect of those sales resulted in cash losses. The period of sales chosen used should be such that the historical losses arising are a valid representation of loss patterns. For example, data for only a few months is unlikely to be sufficiently long; however, using too long a period might not be appropriate if there have been significant changes in the marketplace over that period. A newly established entity or an entity entering a new market might not have sufficient historical data of its own, in which case it might need to rely on external data, such as industry loss ratios.

In this illustrative example, for illustrative purposes only, a period of one year is determined to be appropriate, but the period to be used in practice would depend on the facts and circumstances of each case. In that year, CU10,000 of sales were made on credit (that is, trade receivables recognised) and cash losses of CU300 were incurred in relation to those sales.

Step 2: Calculate the historical payment profile of the trade receivables

To determine the historical default rate for each time bucket of receivables, the payment profile for the receivables arising in the historical period of sales must be determined.

In this example, of the total sales of CU10,000, customers paid CU2,000 within 30 days of the sale date. Therefore CU8,000 of the sales were still outstanding after 30 days. Customers paid an additional CU3,500 within the next 30 days, resulting in CU4,500 of sales that were not paid within 60 days. This analysis continues, as shown below, until ultimately the remaining unpaid receivables of CU300 are written off as losses by the entity.

Total sales (CU):	10,000	Total paid:	Ageing profile of sales (step 3):
Paid in 30 days:	(2,000)	(2,000)	8,000
Paid between 30 and 60 days:	(3,500)	(5,500)	4,500
Paid between 60 and 90 days:	(3,000)	(8,500)	1,500
Paid after 90 days:	(1,200)	(9,700)	**300** [loss]

Step 3: Calculate the historical loss rate

This step calculates the historical loss rate for each time bucket of receivables. From the CU10,000 sales made in the period, there were losses of CU300. Therefore, these CU300 receivables are included within the amount outstanding in each of the time buckets (because the cash was never received), even though the amount outstanding reduces for each subsequent period. For each time bucket, the historical loss rate can be determined by dividing the ultimate loss (of CU300) by the amounts outstanding in that time bucket, as illustrated below:

	Current sales	Payments outstanding after 30 days	Payments outstanding after 60 days	Payments outstanding after 90 days
Ageing profile of sales: [1]	CU10,000	CU8,000	CU4,500	CU1,500
Loss: [2]	CU300	CU300	CU300	CU300

Loss rate:	3%	3.75%	6.67%	20%
[2] / [1]				

Step 4: Adjust the loss rate for current and forward-looking information

The historical loss rate should be adjusted to reflect current and forward-looking information that might affect the ability of customers to settle the receivables. Such information should be reasonable and supportable, and available without undue cost or effort. Consideration should be given to the impact of expected changes in the economic, regulatory and technological environment (such as industry outlook, GDP, employment and politics) and external market indicators.

For example, there might be a historical correlation between unemployment rates and the loss rate. In which case, if unemployment over the expected period of outstanding receivables is expected to be higher or lower than the historical average over the period during which losses have been observed, an adjustment would be needed to the historical loss.

In this example, an economic downturn and increase in unemployment rates compared with the historical period of sales is expected to lead to losses of CU400, rather than CU300, per CU10,000 of sales. Provided that sales and the payment profile are expected to remain materially the same as for the historical sales period, the expected loss rates are recalculated as illustrated below:

	Current sales	Payments outstanding after 30 days	Payments outstanding after 60 days	Payments outstanding after 90 days
Ageing profile of sales: [1]	CU10,000	CU8,000	CU4,500	CU1,500
Expected loss: [2]	CU400	CU400	CU400	CU400
Expected loss rate: [2] / [1]	4%	5%	8.9%	27%

Step 5: Calculate the expected credit loss using the expected loss rates

The final step is to apply the expected loss rates to the ageing profile of the receivables at the reporting date, to determine the total expected credit loss:

pwc

	Total receivables	Current	30–60 days	60–90 days	After 90 days
Trade receivable balances at reporting date: [1]	CU140	CU50	CU40	CU30	CU20
Loss rate: [2]		4%	5%	8.9%	27%
Expected credit loss: [1] x [2]	**CU12**	**CU2**	**CU2**	**CU2.70**	**CU5.30**

The expected credit loss is CU12, which is higher than the CU4.20 that resulted from the method set out in the question. The difference reflects the impact of forward-looking information and the fact that the loss rate of the receivables by ageing profile at the reporting date is not the same as the average loss rate in the historical reference period.

Questions?

PwC clients who have questions about this *In depth* should contact their engagement partner.

Authored by:

Jessica Taurae
Partner – Accounting Consulting Services
jessica.taurae@pwc.com

Victoria Viney
Director – Audit Risk & Quality
victoria.viney@pwc.com

Louise Brown
Senior Manager – Accounting Consulting Services
louise.brown@pwc.com

Iain Kirkpatrick
Senior Manager – Audit Risk & Quality
iain.d.kirkpatrick@pwc.com