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IFRS Calculation Examples with an Illustrative Excel File About IFRS 0 ratings0% found this document useful (0 votes)18 viewsThe document provides an example of calculating lifetime Expected Credit Loss (ECL) for trade receivables using a provision matrix. It details the ageing of receivables and the corresponding…SaveSave Ifrs 9 Example Lifetime ECL Trade Receivables Prov... For Later0%0% found this document useful, undefined IFRS 9 allows an operational simplification whereby entities can use a provision matrix to determine their ECL under the impairment model. A provision matrix method uses past and forward information to estimate the probability of default of lease and trade receivables. View image Step 1 The first step, when using a provision matrix, is to define an appropriate period of time to analyse the proportion of lease and trade receivables written off as bad debts. This period should be sufficient to provide useful information: too short might result in information that is not meaningful, while too long might mean that changes in market conditions or the tenant base make the analysis no longer valid. In the example below, a period of one year has been selected, with a focus on lease receivables. The overall lease receivables were C10,000 and the receivables ultimately written off were C300 in that period. Bad debts written off out of this lease income Step 2 In step 2, the amount of receivables outstanding at the end of each time bucket is determined, up until the point at which the bad debt is written off. The ageing profile calculated in this step is critical for the next step, when calculating default rate percentages. Ageing profile of lease income (step 3) Paid between 30 and 60 days Paid between 60 and 90 days Step 3 In this step, the entity calculates the historical default rate percentage. The default rate for each bucket is the quotient of the defaulted receivables at each bucket over the outstanding lease income for that period. For example, in the above information, C300 out of the C10,000 lease income for the period was written off. Current lease income: historical rate of default Since all of the receivables relating to the lease income for the period and those written off were current at some stage, it can be derived that, for all current amounts, the entity might incur an eventual loss of C300. The default rate would therefore be 3% (C300/C10,000) for all current amounts. Lease income outstanding after 30 days An amount of C8,000 was not paid within 30 days. An eventual loss of C300 was a result of these outstanding receivables. Therefore, the default rate for amounts outstanding after 30 days would be 3.75%. Remaining buckets The same calculation is then performed for 60 days and after 90 days. Although the amount outstanding reduces for each subsequent period, the eventual loss of C300 was, at some stage, part of the population within each of the time buckets, and so it is applied consistently in the calculation of each of the time bucket default rates. The historical default rates are determined as follows: Lease payments outstanding after 30 daysLease payments outstanding after 60 daysLease payments outstanding after 90 days Ageing profile of lease income (1) Default rate: (2)/(1) (%) Step 4 IFRS 9 is an ECL model, so consideration should also be given to forward-looking information. Such forward-looking information would include: changes in economic, regulatory, technological and environmental factors (such as industry outlook, GDP, employment and politics); external market indicators; and tenant base. For example, the entity concludes that the defaulted receivables should be adjusted by C100 to C400 as a result of increased retail entity failures, given that its tenant base is primarily retail focused. The entity also concludes that the payment profile and amount of lease income are the same. Each entity should make its own assumption of forward-looking information. The provision matrix should be updated accordingly. The default rates are then recalculated for the various time buckets, based on the expected future losses. Lease payments outstanding after 30 daysLease payments outstanding after 60 daysLease payments outstanding after 90 days Ageing profile of lease income (1) Default rate: (2)/(1) (%) Step 5 Finally, take the default rates from step 4 and apply them to the actual receivables, at the period end, for each of the time buckets. There is a credit loss of C12 in the example illustrated. Lease payments outstanding after 30 daysLease payments outstanding after 60 daysLease payments outstanding after 90 days Lease receivable balances at year end: (1) Expected credit loss: (1) x (2) Since IFRS 9 replaced IAS 39, entities have been getting to grips with new reporting requirements. We look at the methods and considerations along the way. For a financial asset, the expected credit loss (ECL) is the difference between the contractual cash flows that are due to an entity and the cash flows that an entity expects to receive. The calculation of ECLs applies to financial assets that are measured under amortised cost or at fair value through other comprehensive income. These assets may be in the form of loans, debt securities or trade receivables. Financial assets vary from entity to entity depending on the nature of the business and the products they provide. Some entities offer loan products that are long-term in nature and some may be secured on collateral. This is common for banks and consumer lending companies. In other entities, such as manufacturing and retail companies, their most common financial asset may be trade receivables. These are amounts billed by companies to customers upon delivery of goods or services and are usually due within 12 months. With these different types and characteristics of financial assets, there is the question 'How should entities calculate the ECLs for each type?'. IFRS 9 permits two approaches: the general approach and the simplified approach. The general approach is complex. It usually involves, among other things, calculation of the probability of default, considering whether there have been significant increases in credit risk, and forward-looking macro-economic information. The simplified approach involves the calculation of historical loss rates. The general approach is used by banks and other financial institutions that have longer-term financial assets. There are three functions that need to be considered: Exposure at default (EAD). This is the amount of principal to which the calculated probability of default rate and the loss given default rate is applied. A repayment rate is calculated based on an historic analysis of repayments in the period to default. EAD = The principal amount outstanding x (1- the calculated repayment rate in the period to default). Probability of default (PD). This is an estimate of the likelihood of default over a given period. PD is determined based on the historical loss experience of an entity. This historic PD is then adjusted by a factor, determined by reviewing the historic relationship between key economic parameters such as GDP and unemployment and PD. Forward-looking macro-economic information relating to, say, future GDP and/or unemployment is then considered and the calculated historical PD is adjusted. Loss given default (LGD). This is an adjustment to the ECL calculation for post-default recoveries. These can be in the form of cash repayments, proceeds from the realisation of security or sale of the debt to a third party. The LGD is based on an analysis of historical post-default recoveries. LGD = 1- the post-default recovery rate. Once the three functions are determined, the ECL is calculated as EAD x PD x LGD. The calculation can be either for 12 months or based on the lifetime of the financial asset. This depends on whether there has been a significant increase in credit risk since the date of initial recognition. The credit loss that is calculated on a 12-month basis involves analysis of historical credit losses over 12 months. But credit loss calculated over the lifetime of the financial asset is derived from historical losses over the life of the asset. The PD calculated on a lifetime basis will be higher than the PD calculated over 12 months. As such, the lifetime ECL will be higher than the 12-month ECL. Under IFRS 9, there are three stages of credit risk. Under each stage there is a different prescribed method of calculating the ECL (by using PDs calculated over different periods – 12 months or over the entire life of the financial asset) and recognising interest income: Credit risk – Stage 1. There is no significant increase in credit risk from initial recognition. Only the ECLs within 12 months of a reporting date are calculated. Interest income is calculated on the gross carrying amount of the financial asset. Credit risk – Stage 2. There is a significant increase in credit risk from initial recognition. ECLs over the lifetime of the financial asset must be recognised. Interest income is calculated on the gross carrying amount of the financial asset. Under IFRS 9, there is a rebuttable presumption that there is a significant increase in credit risk if a contractual repayment is more than 30 days past its due date. Credit risk – Stage 3. This is where the financial asset has become credit impaired: the point when there is objective evidence of impairment as defined under IAS 39 (the predecessor to IFRS 9). Examples might include evidence of significant financial difficulty of the debtor, or default. In terms of the ECL, like credit risk Stage 2, these are recognised on a lifetime basis. Interest income, however, is recognised on the net carrying amount (the gross amount of the financial asset, less the calculated impairment). Let's consider an example. Company A has a two-year loan receivable from a customer with a gross carrying amount of £2 million and interest rate of 1% per annum payable in two annual instalments. At a reporting date, Company A has assessed that there has been no significant increase in credit risk from initial recognition. The loan is therefore classified in terms of credit risk under Stage 1. The PD within 12 months has been calculated based on historical data at 2% and LGD is also calculated based on historical data is 5%. The calculation of ECL would be: IFRS 9 requires that ECLs are discounted to the reporting date applying the effective interest rate used at recognition. So, in the above example, the calculated ECL of £1,010 is discounted to £1,000. If, at the reporting date, Company A has assessed that the loan has suffered a significant increase in credit risk from initial recognition, the loan would be classified in terms of credit risk under Stage 2. The following calculation assumes that: the PD for loans in Stage 2 within the first 12 months has been calculated based on historical experience at 5%, and then 10% in the second 12 months; and that through a historical analysis of post-default recoveries of loans in Stage 2, the Company has calculated an LGD of 20% in the first 12 months and then 30% for the second 12 months: In this case, with the loan in credit risk Stage 2, the ECL recognised in the financial statements of Company A would be on a lifetime basis, which in this case is two years. The total ECL charge in the profit and loss account would thus be £39,703. Some entities – those with trade receivables, contract assets and lease receivables – do not calculate the PD and LGD separately, but instead use a loss rate approach. This is known as the simplified approach under IFRS 9. For trade receivables that do not contain a significant financing component, the loss allowance should be measured as equivalent to lifetime ECLs. This is because they are very short-term in nature and are usually due within 12 months. So the 12-month ECL and lifetime ECL would be the same. For trade receivables or contract assets which do contain a significant financing component, and for lease receivables, the entity can choose between the simplified approach and the general approach. The loss rate approach allows the use of a provision matrix adjusted for current conditions and future expectations, based on available forward-looking information. The default rates in the provision matrix should be calculated by segmenting the loan portfolio into appropriate groupings, based on shared credit characteristics. A provision matrix is simply a table that analyses the trade receivables into groupings and applies a calculated loss rate to each one. The groupings can be by product type, which can be sub-analysed into geographic regions. These groups are then, finally, split into aged bandings. Here is an example of a possible provision matrix: IFRS 9 does not provide any specific guidance on how to calculate loss rates. Let's look at one method. It involves collecting historical data over a period in relation to sales, and losses suffered on those sales. Let's assume for Company B that the historical period over which data was collected is three years. The total sales in that period amounted to £3 million and the total losses (sales not paid and written-off) suffered on those sales amounted to £150,000. To determine the loss rate, the sales receipts are observed moving through different ageing groupings, to determine a loss rate for each grouping as follows: Later than 90 days overdue Under IFRS 9, an entity must incorporate forward-looking information into the calculated historical loss rates. This adjustment involves judgment and may be complex. But let's assume that, through statistical analysis of historical data, the unemployment rate has a strong direct relationship with Company B's loss rates. Let's say that economists in the country of Company B have forecast unemployment rates to increase from 3% to 5% and Company B's experience (derived from historical analysis) is that when unemployment increases by 2%, the losses increase by 5%. We are applying a 4% increase (the mid-range of the economic forecast) to the above example (a 4% increase in unemployment would lead to a 10% increase in the loss rate). Thus, the historical loss rates for Company B are adjusted by forward-looking information as follows: Later than 90 days overdue Now that Company B has derived the adjusted loss rates, these rates can be applied to the outstanding balances of trade receivables to determine the ECL for the current period. Later than 90 days overdue In practice, there is unlikely to be any strong relationship between future macro-economic indicators and loss rates for trade receivables. This is because of the short-term nature of such receivables compared to the longer-term nature of economic forecasts. But companies need to consider the relationship between the loss rates and future macro-economic indicators to comply with IFRS 9. Remember that there is no single method prescribed by IFRS 9 when calculating ECLs. But under IFRS 9 the measurement of ECLs must reflect an unbiased and probability-weighted outcome; the time value of money; and reasonable and supportable information that is available without undue cost or effort. 0 ratings0% found this document useful (0 votes)172 viewsThis document provides an example calculation of lifetime expected credit losses (ECL) for trade receivables using a provision matrix, as required under IFRS 9. It shows the calculation of l…AI-enhanced title and descriptionSaveSave CALCULATION AS PER IFRS 09.xlsx For Later0%0% found this document useful, undefined Last update: 2023 If you have a large portfolio of trade receivables, then you face the same issue over and over again: How to calculate bad debt provision to these receivables? When I worked as an auditor, I used to discuss this issue with my colleagues very frequently. Everyone of them agreed that yes, there is always some bad debt hidden among "healthy" receivables and it's necessary to recognize some provision for that. However, everyone had a different opinion on how to do it. The most common approach was, to my surprise and disagreement, to create a provision in a few steps: Analyze receivables at the reporting date and sort them according to their aging structure Apply certain percentages of provision to the individual aging groups Sounds easy, right? In most cases, auditors applied something like 2% to trade receivables within maturity, 10% to trade receivables that were 1-30 days overdue… 100% to receivables more than 360 days overdue. It always amazed me. How the hell do you know that this particular company will suffer 10% credit loss on receivables that are 1-30 days overdue??? For me, it always seemed that these numbers were made out of thin air. It was long time before IFRS 9 was adopted. Now, luckily, IFRS 9 tells us how to create bad debt provision for trade receivables and how to get these percentages. In this article, I'd like to explain this methodology and illustrate it on a simple example. What do the rules in IFRS 9 say? IFRS 9 requires you to recognize the impairment of financial assets in the amount of expected credit loss. In fact, there are 2 approaches for doing so: General approach In general approach, there are 3 stages of a financial asset and you should recognize the impairment loss depending on the stage of a financial asset in question. Thus, the impairment loss is either in the amount of a 12-month expected credit loss (ECL) or a lifetime expected credit loss (ECL).You can read more about the general approach here.There are a lot of implementation troubles and challenges, for example: How do you determine in which stage the financial asset is? How do you determine when the credit risk in some financial asset has significantly increased? How do you calculate 12-month ECL and lifetime ECL? How do you get and update your inputs into the ECL calculations? Therefore, IFRS 9 permits an alternative for some type of financial assets: Simplified approach In simplified approach, you don't have to determine the stage of a financial asset because the impairment loss is measured at lifetime ECL for all assets.This is great news because lots of troubles simply disappear. However, let me warn you that the simplified approach is not for everybody and even if it's simplified, you still need to make some calculations and effort. Who can apply simplified approach? OK, that's not the best question in the world, because everybody can apply simplified approach. Type of financial asset is more important here. Special For You! Have you already checked out the IFRS Kit ? It's a full IFRS learning package with more than 40 hours of private video tutorials, more than 140 IFRS case studies solved in Excel, more than 180 pages of handouts and many bonuses included. If you take action today and subscribe to the IFRS Kit, you'll get it at discount! Click here to check it out! You have to apply simplified approach for: Trade receivables WITHOUT significant financing component, and Contract assets under IFRS 15 WITHOUT significant financing component For these two types of assets you have no choice – just apply simplified approach. On top of that, you can make a choice for: Trade receivables WITH significant financing component, Contract assets under IFRS 15 WITH significant financing component, and Lease receivables (IAS 17 or IFRS 16) For these three types of financial assets, you can apply either simplified approach or general approach. Can one entity apply both models? Yes, of course – but not to the same type of financial asset. Take a bank, for example. Banks usually provide lots of loans and under IFRS 9, they have to apply general models to calculate impairment loss for loans. But occasionally, banks can have other financial assets, too. For example, they may rent redundant offices and have lease receivables. Or, they can provide advisory services and charge fees for that – thus they can have typical trade receivables. For these types of assets, the same bank can apply simplified approach. How to apply simplified approach? As written above, under simplified approach, you measure impairment loss as lifetime expected credit loss. IFRS 9 permits using a few practical expedients and one of them is a provision matrix. What is a provision matrix? Simply said, it is a calculation of the impairment loss based on the default rate percentage applied to the group of financial assets. Here, we have 2 important elements: Group of financial assets Default rates Let's break it down. How to group the financial assets? When you are using provision matrix for simplification, you still need to be as close to reality as possible. Therefore, before applying any loss rates, you should group your financial assets first. Segment them. The reason is that all trade receivables do not necessarily share the same characteristics and therefore, it would not be reasonable to put them into the same pocket. How to group them? It depends on what factors affect the repayment of your receivables. Maybe you noted that your retail customers (individuals) are less reliable and slower in payments than your business customers (companies). Therefore, your segments or groups would naturally be retail customers and business customers. Or, maybe you sell in a few geographical regions and you noted that customers from the capital city pay more reliably than customers in the rural areas (maybe it has something to do with unemployment rate…) So, your segments would be customers from cities and customers from countryside. I think you get the point – you should select the grouping of your trade receivables (or other financial assets in questions) depending on your circumstances. Just a few suggestions for segmenting: By product type; By geographical region; By currency; By customer rating; By dealer type or sales channel; etc. The important point here is that the customers within one group should have the same or similar loss patterns. How to get the default rates? Remember – do NOT just trump the default rates up, just like auditors from the intro of this article. You should really calculate them based on your own data. IFRS 9 says that you should: Derive the default rates from your own historical credit loss experience; and Adjust them for forward-looking information. Historical default rates First, you need to analyze the historical credit losses. How? You should take the appropriate period of time and analyze which portion of trade receivables created during that period went default. Just be careful when selecting the appropriate period. It should not be too short in order to make sense and it also should not be to long because market changes quickly and long period might incorporate market effects that are no longer valid. I recommend selecting one or two years. Then you are going to select the time buckets, or periods when the receivables were paid. Finally, you would calculate the default rate for each bucket. No worries if this seems too unclear – you can find the illustrative example below. Forward-looking information Once you have your historical default rates, you need to adjust them by the forward-looking information. What is it? Special For You! Have you already checked out the IFRS Kit ? It's a full IFRS learning package with more than 40 hours of private video tutorials, more than 140 IFRS case studies solved in Excel, more than 180 pages of handouts and many bonuses included. If you take action today and subscribe to the IFRS Kit, you'll get it at discount! Click here to check it out! They are all information that could affect the credit losses in the future, for example macroeconomic forecasts of unemployment, housing prices, etc. You should adjust historical default rates for the information that is relevant for your financial assets. For example, let's say the telecom company has 2 segments of receivables: Retail customers, or individuals and for this group, unemployment rates are important factor affecting the payment rate. If unemployment goes up, the credit quality of trade receivables to retail customers worsens. Business customers: for this group, GDP (gross domestic product) and inflation rate are important factors in this particular country. How to incorporate the forward-looking information? When there is a linear relationship between the macroeconomic factor (i.e. unemployment rate) and the input (i.e. increase/decrease in collection of receivables), then the incorporation is quite simple. In this case, you need to observe what effect has the change in the parameter on your default rates and make simple adjustment (see illustration below). However, when the relationship is not linear, then the adjustment might require some modeling using either Monte Carlo simulation or other similar methods. Example: Impairment of trade receivables under IFRS 9 ABC wants to calculate the impairment loss of its trade receivables as of 31 December 20X1. ABC's policy is to give 30 days for the repayment of receivables. Note: This is an important point – 30 days credit period means that these receivables have NO significant financing component and therefore, you don't have to worry about the present values. The aging structure of trade receivables as of 31 December 20X1 is as follows: Days after issuing invoice Amount outstanding Within maturity (0-30 days) 800 31-60 days 350 61-180 days 280 180-360 days 170 > 360 days 100 Total 1 700 ABC decided to apply the simplified approach in line with IFRS 9 and calculate impairment loss as lifetime expected credit loss. As a practical expedient, ABC decided to use the provision matrix. First, ABC needs to calculate historical default rates. In order to have sufficient historical data, ABC selected the period of 1 year from 1 January 20X0 to 31 December 20X0. During this period, ABC generated sales of CU 20 000, all on credit. Then, we can split the whole analysis process into a few steps. Step 1: Analyze the collection of receivables by the time buckets ABC needs to analyze when the receivables were paid and sort them out into table based on number of days from creation of invoice until the collection of the receivable: When paid? Paid amount Paid amount (cumulative) Unpaid amount Within maturity (0-30 days) 7 500 7 500 12 500 31-60 days 6 800 14 300 5 700 61-180 days 3 000 17 300 2 700 180-360 days 2 200 19 500 500 > 360 days 500 = write-off 19 500 500 = write-off Total 20 000 n/a n/a Notes: The amount of CU 500 in the column "Paid amount" for > 360 days represents in fact defaulted, unpaid amount. Paid amount cumulative is calculated as paid amount in certain time bucket plus paid amount in the previous bucket, i.e. cumulative paid amount in 31-60 days is calculated as 6 800+7 500. The exception is > 360 days – here, we can't include CU 500 because it is not paid. Unpaid amount in the last column = total of 20 000 less cumulative paid amount. Step 2: Calculate the historical loss rates Then, ABC can calculate the historical default loss rates as the loss amount of CU 500 divided by the amount unpaid (outstanding) at the end of each time bucket: When paid? Unpaid amount Loss Default rate Within maturity (0-30 days) 20 000 500 2.5% 31-60 days 12 500 500 4.0% 61-180 days 5 700 500 8.8% 180-360 days 2 700 500 18.5% > 360 days 500 500 100.0% Note: Default rate = loss divided by the unpaid amount. Here you might note that data shifted a bit. Unpaid amount for "within maturity" row amounting to CU 12 500 is now in the "31-60 days" row. That's OK because we are calculating amounts that fell into certain time bucket – that is, in the beginning of that bucket, not at its end. So, in "within maturity" bucket, ABC created CU 20 000 of trade receivables; in "31-60 days" bucket, ABC created CU 12 500, etc. Also, why did we apply the loss of CU 500 to all buckets? The reason is that all receivables that were written off (CU 500) were in each stage over their life. For example, all written off receivables amounting to CU 500 were current (within maturity), or within those CU 20 000 and therefore we can say that the loss generated during 20X0 (tested period) is 500/20 000. The same applies for any other time bucket. Now, we are not done yet. We have only calculated the historical loss or default rates. We still need to incorporate the forward-looking information. Step 3: Incorporate forward-looking information This is more difficult, but let me just outline one very simple approach. Let's say that ABC's credit losses show almost linear relationship with unemployment rates. Please note that "unemployment rate" is NOT a prescription for you – you should find your own macroeconomic factors that could affect your credit losses. And, let's say that the statistical office in ABC's country assumes that unemployment rate will go up from 5% to 6% in 20X2. ABC's experience is that when unemployment rate increases by 1%, it triggers the increase in default losses by 10% (note – you should be able to prove that). Therefore, ABC may reasonably assume that the loss of CU 500 can increase by 10% because of the increase in the unemployment rate – that is, to CU 550. Thus, the calculation of loss (default) rates adjusted by forward-looking information is as follows: When paid? Unpaid amount Loss Default rate Within maturity (0-30 days) 20 000 550 2.75% 31-60 days 12 500 550 4.40% 61-180 days 5 700 550 9.60% 180-360 days 2 700 550 20.40% Step 4: Apply the loss rates to the current trade receivables portfolio And finally, coming to the end of this exercise, let's apply these loss rates to actual portfolio of trade receivables as of 31 December 20X1: Days after issuing invoice Amounts outstanding Loss rate Expected credit loss Within maturity (0-30 days) 800 2.75% 22.0 31-60 days 350 4.40% 15.4 61-180 days 280 9.60% 26.9 180-360 days 170 20.40% 34.7 > 360 days 100 100.00% 100 Total 1 700 n/a 199.0 Done. ABC can recognize the impairment loss on trade receivables as Debit P/L Impairment loss on trade receivables: CU 199 Credit Trade receivables – adjustment account: CU 199 Note: this journal entry assumes that the previous balance of the loss allowance was 0. If there was a balance, then ABC recognized just a difference to bring the loss allowance to CU 199. Further reading If you wish to dig deeper in the topic, here are a few articles that I recommend reading: Also, I would like to point you to our course "ECL for Accountants", where you will learn how to apply ECL on trade receivables in much greater detail. Any questions? Please let me know in the comments below this article. Thank you! The IFRS 9 accounting standard on Financial Instruments introduced in 2018 included several changes to the accounting treatment of impaired assets. Due to the COVID-19 impact on the economy, many companies are reviewing their impairment methodologies. In light of this, we offer a short refresher on the measurement of Expected Credit Losses (ECL) with respect to Trade Receivables and Contract Assets. We will also examine how this impacts the reporting of these financial instruments. Understanding IFRS 9 – Expected Credit LossesOne of the key differences between the previous IAS 39 standard and IFRS 9 regarding impairments is that there is no requirement that a loss event need occur before an impairment loss is recognized. This means that all assets within the scope of IFRS 9 will typically have a loss allowance, even if there is no evidence of impairment. For Trade Receivables, this means that even current receivables i.e., those not yet due, will have a loss allowance.Under IFRS 9, a three-stage impairment model has been implemented where all financial instruments are classified into one of three stages depending on whether there has been a significant increase in the credit risk of an instrument since its initial recognition.The stage determines how impairments are calculated and how revenue from these instruments is recognized.At the origination of the financial instrument, the entity needs to recognise an allowance for expected credit losses arising from default events that could occur within 12 months following the reporting date (12-month ECL). At each subsequent reporting date, the entity needs to assess whether there has been a significant increase in credit risk since initial recognition.Stage allocation: If there has been no significant increase in credit risk then the instrument is classified as Stage 1 and the loss allowance is again measured as a 12-month ECL. If there has been a significant increase in credit risk, then the instrument is classified as Stage 2 and the loss allowance is now measured as a Lifetime ECL (expected credit losses arising from default events that could occur throughout the remaining lifetime of the asset). If credit risk increases substantially and the instrument is considered impaired, then the instrument is classified as Stage 3 with the loss allowance also measured as Lifetime ECL.Simplified Approach for Trade ReceivablesSince it is rather a subjective and complicated process to determine whether there has been a significant increase in credit risk where trade receivables are concerned, IFRS 9 allows a simplified approach whereby ECL is always measured over the lifetime of the receivable.This means that no staging assessment is required. This simplified approach is required where the trade receivable does not have a significant financing component. If receivables do have a significant financing component then the company can select whether to use the general or the simplified approach. The standard also allows the use of practical expedients in calculating lifetime ECL. One common practical expedient is the use of a provision matrix. Below is an example illustrating the use of a provision matrix:Consider the below aging structure of an entity's trade receivables at year-end for which we wish to determine the ECL. Their policy allows up to 30 days for payment of goods (i.e. there is no significant financing portion).The entity has decided to implement the simplified approach and hence calculate the lifetime ECL to determine the impairment loss. A provision matrix will be used as a practical expedient.Historical data1)Define a period of sales of credit to use in the analysis and identify the portion of sales historically written-off as a credit loss, i.e. bad debt. Note that the time period should be sufficient to allow for reasonable conclusions to be made from the data, whilst also not being too long a period in case of market conditions changing and the sample set no longer being applicable. Using a sampling period of one year's sales records from the previous year, for the entity in our example, total sales generated came to $30,000 and the amount found to be unpaid and therefore written off as a credit loss was $600.2)Using appropriate time buckets, create an aging payment profile of the debtors as per sample. These time buckets will usually describe the number of days since an invoice has been issued to a customer, i.e., sales credit. For our example, we split the credit sales data according to the below ages:3) Calculate the historic default loss percentage for each time bucket, by dividing the amount outstanding at the beginning of each time period by the credit loss on all sales:Default Rate %= Credit Loss ÷Amount OutstandingLooking at the 61-180 days time bucket, for example, we have an amount outstanding of $6,000 = $30,000 – $24,000.The historical default rate for this period is calculated by: $600 (credit loss)/ $6,000 (amount outstanding at beginning of period) = 10.0% Incorporating forward-looking informationCalculate the forward-looking loss rates by adjusting those determined from Step (3). This is the most subjective part of the process as this incorporates assumptions to be made with respect to changes in other factors such as:Macroeconomic (e.g. inflation, GDP, employment, interest rates)Regulatory, policiesTechnologyFor simplicity's sake, we will look at unemployment rates as a macroeconomic factor affecting loss rates. Here, we will assume there is a directly linear relationship between unemployment rates and the entity's credit losses. Say, for example, that unemployment rates are expected to increase by 1% over the next year and as a result we expect the credit loss amount will increase by 10% to $ 660. Our new forward-looking default rate for the 61-180 days bucket will be:Now, we apply this adjusted rate to the balances in that time bucket as at the measurement date in order to determine the impairment provision/expected loss:The same methodology would be applied across every age band as determined in Step 2 so that the total ECL will be calculated for the year in question. You can download the dedicated white paper here.Because determining expected credit losses can be challenging, at Lux we can help. Contact us today and learn more about our process. We're fetching your file...Please wait a moment while we retrieve your file from its home on the internet Some time ago I published an article about calculating bad debt provision in line with IFRS 9. Precisely speaking, it was about measuring expected credit loss using simplified approach for trade receivables – just to be on the safe side. Since then, I keep receiving loads of questions such as: "Why did you not use three-part formula of EAD x LGD x PD?" Answer: It's a great formula, but not for everybody. Read more here later in this article. "Why don't we apply PD (probability of default) in provisioning matrix?" Answer: It seems you are confusing two different methods of calculating ECL, please read more below. "What if my debtors always pay, but very late? Do I have ECL?" Answer: In short – yes. For more explanation, read below. So from these and other questions I can see that there is a bit of confusion about calculating ECL and therefore I want to shed some light to this topic. How to measure expected credit loss? There is no imperative rule in IFRS 9. Let me stress this out LOUD: There is NO one single method of measuring the expected credit loss prescribed by IFRS 9. Instead, it is YOU who needs to select the approach that fits your situation in the best way. IFRS 9 only tells you that any method you select MUST reflect the following (see IFRS 9.5.5.17): 1. An unbiased and probability-weighted amount… …to which you have arrived by assessing a range of possible outcomes. Illustration: Imagine you have a debtor who owes you CU 1 000 000 (CU = currency unit) repayable in 2 years. There is some chance that due to economic downturn, the debtor will lose sales and as a result he would not be able to repay fully. Special For You! Have you already checked out the IFRS Kit ? It's a full IFRS learning package with more than 40 hours of private video tutorials, more than 140 IFRS case studies solved in Excel, more than 180 pages of handouts and many bonuses included. If you take action today and subscribe to the IFRS Kit, you'll get it at discount! Click here to check it out! And, you identify 3 different outcomes: either the debtor pays you in full, or pays you just 50% on time and the rest some years later, or goes bankrupt and you lose 100%. You need to assess each of these outcomes, how probable they are, how much you would lose in each outcome and calculate ECL. 2. The time value of money You should discount the estimated losses to the reporting rate. This is done because the losses can occur in more than 12 months after the reporting date. For example – the debtor from the above illustration should repay in 2 years and let's say that can go bankrupt in 2 years. Now, at the reporting date, when no payments from that debtor are due, you can still have expected credit loss because you might expect that the debtor will not repay anything in 2 years. But, as the loss is expected in 2 years, it is necessary to bring it down to present value, because otherwise the loss would be greater than the carrying amount of a loan itself (as it IS in present value). Also, you can incur the loss even if the debtor pays you in full, but later than expected, exactly due to time value of money. One reader asked me a question: "We trade with our government and have trade receivables towards them. The government always pays us, but the payment arrives 20-24 months later than due. Do we have some credit loss here?" The answer is – YES, you do, exactly because the time value of money. If the payments arrive a few months later, then you can probably ignore the time value of money as the period between the arrival of payment and due date is less than 1 year and thus the effect of discounting would not be material. But, this is not the case when the payments arrive almost 2 years after due date. Reasonable and supportable information… …available without undue cost or effort at the reporting date about past events, current conditions and forecasts of future economic conditions. Hmmm, I get LOADS of questions on this one. How do we get loss rates since we are a new entity and have no historical data? How do we incorporate forecasts if we have no information on them? Well, let me tell you that sometimes you need to look at external sources of information and simply BUY the data. Let's say you are a new retail operator and have no history of payment discipline of your customers. Thus you cannot calculate historical loss rates as I have done in this example. OK, then you might need to apply the alternative approach. For example – use the information from similar entities operating in similar industry in similar economic environment. You can buy this info from credit bureaus, credit rating agencies, economical statistics prepared by central banks… you need to be a bit open-minded here and look for what is available in your country. And remember – the standard does not say that the reasonable and supportable information must be obtained with NO cost at all. It says "without undue cost and effort", so yes, IFRS 9 practically says that you might incur some cost to get the info. What are the most common methods of measuring ECL? Here we are getting to the clarification of all those loss rates, probability of default rates, "three-part formula" and other terms related to measuring ECL. Basically (that's what most banks and other entities do), there are just two most popular methods: Loss rate approach, Probability of default approach Again, this is NOT imperative. If you can come up with a different method – fine, apply it, but remember it must meet the three criteria set by IFRS 9 as described above. Now let's bring some clarity to these methods and illustrate them a bit. I. Probability of default approach Here, three elements enter into the calculation of expected credit loss: Probability of default (PD) – this is the likelihood that your debtor will default on its debts (goes bankrupt or so) within certain period (12 months for loans in Stage 1 and life-time for other loans). Loss given default (LGD) – this is the percentage that you can lose when the debtor defaults. Exposure at default (EAD) – this is the amount that the debtor owes you at the time of default. The formula for calculating ECL using this method is here: Let me illustrate this method a bit. Example: Probability of default approach Let's say that you have a debtor that owes you 1 000 CU repayable in 1 year. The debtor has severe financial troubles and your lawyers estimate that there is 20% chance of going bankrupt. If the debtor goes bankrupt, you would lose 70% of the amount he owes you. You lose nothing when there is no bankruptcy. In this short example: PD = 20%; LGD = 70%; EAD = 1 000 CU. Thus, the expected credit loss is 20% x 70% x CU 1 000 = CU 140. Sure, I ignored both of: The stage of this loan – because the remaining life of the loan is 1 year and thus 12-month ECL = lifetime ECL.; and The time value of money – because the loan is repayable in 1 year and it is likely that time value of money is not material. In reality, you need to take care about all of these things. In fact, this calculation takes TWO outcomes in consideration: Loss with 20% probability; and No loss with 80% probability. The full formula is therefore: 20% (PD) x 70% (LGD) x 1 000 (EAD); PLUS 80% (=probability of NO default = 100% – PD) x 0% (zero loss) x 1 000 (EAD) = 140. I am just adding it here because you might have some loss even in "no default" situation due to late payments (time value of money!). You can also see the example illustrating this method on undocumented intercompany loan here. Pros and cons of PD method This method is preferred by banks and financial institutions, because they have large portfolios of loans and great internal credit rating system in place. Special For You! Have you already checked out the IFRS Kit ? It's a full IFRS learning package with more than 40 hours of private video tutorials, more than 140 IFRS case studies solved in Excel, more than 180 pages of handouts and many bonuses included. If you take action today and subscribe to the IFRS Kit, you'll get it at discount! Click here to check it out! Also, this method is compatible with Basel capital framework requirements, so the banks need to make a few adjustments to make it in line with both Basel and IFRS 9, too. I would also say that probabilities of default include certain forward-looking insights in them and are not based purely on past statistics, thus they are OK with IFRS 9. However, for trade receivables and other financial assets where you can apply simplified approach, this is not very convenient, because of challenges involved in getting the necessary information. It is quite difficult to develop internal statistical models for getting PDs and other information. Therefore, most companies use the second approach for their trade receivables and other financial assets where simplified model is applied: loss rate model. II. Loss rate approach Here, you do NOT need any probability of default (PD) and other details. The two things that you need are: To get historical loss rates of your own financial assets. You need to develop some statistics of amounts never paid by your customers (write-offs, or losses). I showed you how to do it here in this article with the example. To adjust them by forward-looking information. This is the difficult part. If the economic and other environment did not change, then you are all OK, but when there are economic changes (recession, new competitors, new laws), then you need to estimate their impact on your receivables and incorporate it in the loss rates. I also showed you the example in this article. When you are using so called "provision matrix", you are applying loss rate approach in fact. I am not bringing any illustration of this method here, because it is fully and in detail showed here. Pros and cons of loss rate approach This method is quite simple, because you can always calculate the loss rates of your receivables (if you are a new entity, then read above for guidance). However, there are two drawbacks of this method: Forward-looking information: oh yes, I repeat: loss rates as such reflect only past information, i.e. what has already happened. You have to make an adjustment for the information about the future performance of your portfolio. Time value of money: If you have trade receivables or other financial assets with repayment date of less than 12 months and you assume that all amounts unpaid within 12 months are lost, then you can ignore discounting. But, if you have financial assets with longer maturity periods, or your debtors pay you in more than 12 months after the maturity date, then you need to incorporate time value of money as well. Any questions? Please let me know in the comments below this article. Thank you!