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CHAPTER ONE

1. INCOME TAXES

1.1 The tax base concept

As our opening story indicates, companies spend a considerable amount of time and effort to minimize their income tax payments. And with good reason, as income taxes are major costs of doing business for most corporations. Yet, at the same time, companies must present financial information to the investment community that provides a clear picture of present and potential tax obligations and tax benefits. In this chapter, we discuss the basic guidelines that companies must follow in reporting income taxes.

The basic guidelines that corporation use to report information to investors and creditors. Corporations also must file income tax returns following the guidelines developed by the Internal Revenue Service (IRS). Because GAAP and tax regulations differ in a number of ways, so frequently do pretax financial income and taxable income. Consequently, the amount that a company reports as tax expense will differ from the amount of taxes payable to the Internal Revenue Service (IRS).

Pretax financial income is a *financial reporting* term. It also is often referred to as *income before taxes*, *income for financial reporting purposes*, or *income for book purposes*. Companies determine pretax financial income according to GAAP. They measure it with the objective of providing useful information to investors and creditors.

Taxable income (income for tax purposes) is a *tax accounting* term. It indicates the amount used to compute income tax payable. Companies determine taxable income according to the Internal Revenue Code (the tax code). Income taxes provide money to support government operations.

To illustrate how differences in GAAP and Internal Revenue Service (IRS) rules affect financial reporting and taxable income, assume that Karamara Inc. reported revenues of $130,000 and expenses of $60,000 in each of its first three years of operations. The following Illustration shows the (partial) income statement over these three years.

Karamara Inc.
GAAP Reporting

	2010	2011	2012	Total
Revenues	$130,000	$130,000	$130,000	
Expenses	60,000	60,000	60,000	
Pretax financial income	**$ 70,000**	**$ 70,000**	**$ 70,000**	$ 210,000
Income tax expense (40%)	$ 28,000	$ 28,000	$ 28,000	$ 84,000

Pretax Financial Reporting Income Statement According to GAAP

For tax purposes (following the tax code), Karamara reported the same expenses to the IRS in each of the years. But, as the following Illustration shows, Karamara reported taxable revenues of $100,000 in 2010, $150,000 in 2011, and $140,000 in 2012.

Karamara Inc.
Tax Reporting

	2010	2011	2012	Total
Revenues	$100,000	$150,000	$140,000	
Expenses	60,000	60,000	60,000	
Taxable income	**$ 40,000**	**$ 90,000**	**$ 80,000**	$ 210,000
Income tax payable (40%)	$ 16,000	$ 36,000	$ 32,000	$ 84,000

Taxable Income Reporting According to Internal Revenue Service Code

Income tax expense and income tax payable differed over the three years, but were equal **in total**, as the following Illustration shows.

KARAMARA INC.
INCOME TAX EXPENSE AND
INCOME TAX PAYABLE

	2010	2011	2012	Total
Income tax expense	$28,000	$28,000	$28,000	$84,000
Income tax payable	16,000	36,000	32,000	84,000
Difference	**$12,000**	**$ (8,000)**	**$ (4,000)**	**$ 0**

Comparison of Income Tax Expense to Income Tax Payable

The differences between income tax expense and income tax payable in this example arise for a simple reason. For financial reporting, companies use the full accrual method to report revenues. For tax purposes, they use a modified cash basis. As a result, Karamara reports pretax financial income of $70,000 and income tax expense of $28,000 for each of the three years. However, taxable income fluctuates. For example, in 2010 taxable income is only $40,000, so Karamara owes just $16,000 to the IRS that year. Karamara classifies the income tax payable as a current liability on the balance sheet.

As Illustration the above indicates, for Karamara the $12,000 ($28,000 $16,000) difference between income tax expense and income tax payable in 2010 reflects taxes that it will pay in future periods. This $12,000 difference is often referred to as a **deferred tax amount**. In this case it is a **deferred tax liability**. In cases where taxes will be lower in the future, Karamara records a **deferred tax asset**. We explain the measurement and accounting for deferred tax liabilities and assets in the following two sections.

1.2 Recognition of deferred tax liabilities and assets

1.2.1 Future Taxable Temporary Difference

The example summarized in Illustration above shows how income tax payable can differ from income tax expense. This can happen when there are temporary differences between the amounts reported for tax purposes and those reported for book purposes. A **temporary difference** is the difference between the tax basis of an asset or liability and its reported (carrying or book) amount in the financial statements, which will result in taxable amounts or deductible amounts in

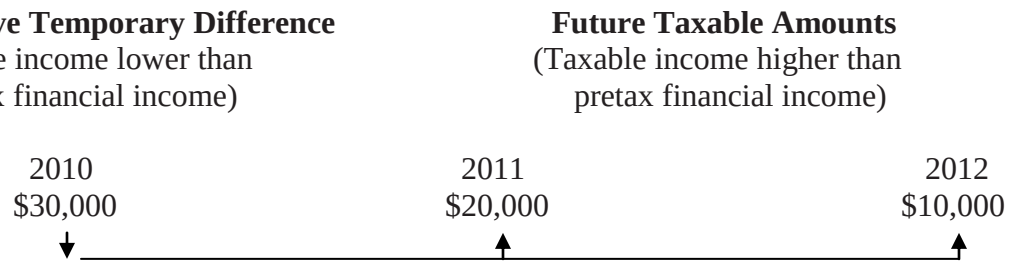
future years. **Taxable amounts** increase taxable income in future years. **Deductible amounts** decrease taxable income in future years. In Karamara's situation, the only difference between the book basis and tax basis of the assets and liabilities relates to accounts receivable that arose from revenue recognized for book purposes. The following Illustration indicates that Karamara reports accounts receivable at $30,000 in the December 31, 2010, GAAP-basis balance sheet. However, the receivables have a zero tax basis.

Per Books	12/31/10	Per Tax Return	12/31/10
Accounts receivable	**$30,000**	Accounts receivable	**$–0–**

Statement of Temporary Difference, Sales Revenue

What will happen to the $30,000 temporary difference that originated in 2010 for Karamara? Assuming that, Karamara expects to collect $20,000 of the receivables in 2011 and $10,000 in 2012, this collection results in future taxable amount of $20,000 in 2011 and $10,000 in 2012. These future taxable amounts will cause taxable income to exceed pretax financial income in both 2011 and 2012.

An assumption inherent in a company's GAAP balance sheet is that companies recover and settle the assets and liabilities at their reported amounts (carrying amounts). This assumption creates a requirement under accrual accounting to recognize *currently* the deferred tax consequences of temporary differences. That is, companies recognize the amount of income taxes that are payable (or refundable) when they recover and settle the reported amounts of the assets and liabilities, respectively. The following Illustration shows the reversal of the temporary difference described in above Illustration and the resulting taxable amounts in future periods.



This shows Reversal of Temporary Difference, in Karamara Inc.

Karamara assumes that it will collect the accounts receivable and report the $30,000 collection as taxable revenues in future tax returns. A payment of income tax in both 2011 and 2012 will

occur. Karamara should therefore record in its books in 2010 the deferred tax consequences of the revenue and related receivables reflected in the 2010 financial statements. Karamara does this by recording a deferred tax liability.

Deferred Tax Liability

A **deferred tax liability** is the deferred tax consequences attributable to taxable temporary differences. In other words, **a deferred tax liability represents the increase in taxes payable in future years as a result of taxable temporary differences existing at the end of the current year**.

Recall from the Karamara example that income tax payable is $16,000 ($40,000X40%) in 2010 (in above Illustration. In addition, a temporary difference exists at yearend because Karamara reports the revenue and related accounts receivable differently for book and tax purposes. The book basis of accounts receivable is $30,000, and the tax basis is zero. Thus, the total deferred tax liability at the end of 2010 is $12,000, computed as shown in the following Illustration.

Book basis of accounts receivable	$30,000
Tax basis of accounts receivable	–0–
Cumulative temporary difference at the end of 2010	30,000
Tax rate	40%
Deferred tax liability at the end of 2010	**$12,000**

This Statement shows Computation of Deferred Tax Liability, End of 2010

Companies may also compute the deferred tax liability by preparing a schedule that indicates the future taxable amounts due to existing temporary differences. Such a schedule, as shown in the following Illustration, is particularly useful when the computations become more complex.

	Future Years		
	2011	2012	Total
Future taxable amounts	$ 20,000	$ 10,000	$ 30,000
Tax rate	40%	40%	
Deferred tax liability at the end of 2010	**$ 8,000**	**$ 4,000**	**$ 12,000**

Schedule of Future Taxable Amounts

Because it is the first year of operations for Karamara, there is no deferred tax liability at the beginning of the year. Karamara computes the income tax expense for 2010 as shown in Illustration.

Deferred tax liability at end of 2010	$12,000
Deferred tax liability at beginning of 2010	–0–
Deferred tax expense for 2010	12,000
Current tax expense for 2010 (Income tax payable)	16,000
Income tax expense (total) for 2010	$**28,000**

Computation of Income Tax Expense, 2010

This computation indicates that income tax expense has two components—**current tax expenses** (the amount of income tax payable for the period) and deferred tax expense. **Deferred tax expense** is the increase in the deferred tax liability balance from the beginning to the end of the accounting period. Companies credit taxes due and payable to Income Tax Payable, and credit the increase in deferred taxes to Deferred Tax Liability. They then debit the sum of those two items to Income Tax Expense. For Karamara, it makes the following entry at the end of 2010.

Income Tax Expense	28,000	
Income Tax Payable		16,000
Deferred Tax Liability		12,000

At the end of 2011 (the second year), the difference between the book basis and the tax basis of the accounts receivable is $10,000. Karamara multiplies this difference by the applicable tax rate to arrive at the deferred tax liability of $4,000 ($10,000X40%), which it reports at the end of 2011. Income tax payable for 2011 is $36,000 as illustration above, and the income tax expense for 2011 is as shown in the following illustration.

Deferred tax liability at end of 2011	$ 4,000
Deferred tax liability at beginning of 2011	12,000
Deferred tax expense (benefit) for 2011	(8,000)
Current tax expense for 2011 (Income tax payable)	36,000
Income tax expense (total) for 2011	$**28,000**

Computation of Income Tax Expense, 2011

Karamara records income tax expense, the change in the deferred tax liability, and income tax payable for 2011 as follows.

Income Tax Expense	28,000	
Deferred Tax Liability		8,000

Income Tax Payable		36,000	

The entry to record income taxes at the end of 2012 reduces the Deferred Tax Liability by $4,000. The Deferred Tax Liability account appears as follows at the end of 2012. Deferred Tax Liability Account after Reversals as follows,

Deferred Tax Liability			
2011	8,000	2010	12,000
2012	4,000		

The Deferred Tax Liability account has a zero balance at the end of 2012.

Summary of Income Tax Accounting Objectives

One objective of accounting for income taxes is to recognize the amount of taxes payable or refundable for the current year. In Karamara's case, income tax payable is $16,000 for 2010. A **second objective** is to recognize deferred tax liabilities and assets for the future tax consequences of events already recognized in the financial statements or tax returns. For example, Karamara sold services to customers that resulted in accounts receivable of $30,000 in 2010. It reported that amount on the 2010 income statement, but not on the tax return as income. That amount will appear on future tax returns as income for the period **when collected**. As a result, a $30,000 temporary difference exists at the end of 2010, which will cause future taxable amounts. Karamara reports a deferred tax liability of $12,000 on the balance sheet at the end of 2010, which represents the increase in taxes payable in future years ($8,000 in 2011 and $4,000 in 2012) as a result of a temporary difference existing at the end of the current year. The related deferred tax liability is reduced by $8,000 at the end of 2011 and by another $4,000 at the end of 2012.

In addition to affecting the balance sheet, deferred taxes impact income tax expense in each of the three years affected. In 2010, taxable income ($40,000) is less than pretax financial income ($70,000). Income tax payable for 2010 is therefore $16,000 (based on taxable income). Deferred tax expense of $12,000, results from the increase in the Deferred Tax Liability account on the balance sheet. Income tax expense is then $28,000 for 2010.

In 2011 and 2012, however, taxable income will exceed pretax financial income, due to the reversal of the temporary difference ($20,000 in 2011 and $10,000 in 2012). Income tax payable will therefore exceed income tax expense in 2011 and 2012. Karamara will debit the Deferred

Tax Liability account for $8,000 in 2011 and $4,000 in 2012. It records credits for these amounts in Income Tax Expense. These credits are often referred to as a **deferred tax benefit** (which we discuss again later on).

1.2.2 Future Deductible Temporary Differences

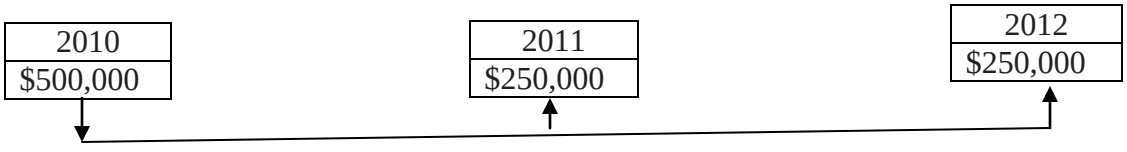
Assume that during 2010, Safaricom Inc. estimated its warranty costs related to the sale of microwave ovens to be $500,000, paid evenly over the next two years. For book purposes, in 2010 Safaricom reported warranty expense and a related estimated liability for warranties of $500,000 in its financial statements. For tax purposes, **the warranty tax deduction is not allowed until paid**. Therefore, Safaricom recognizes no warranty liability on a tax-basis balance sheet. The following illustration shows Temporary Difference, Warranty Liability the balance sheet at the end of 2010.

Per Books	12/31/10	Per Tax Return	12/31/10
Estimated liability for warranties	$500,000	Estimated liability for warranties	$–0–

When Safaricom pays the warranty liability, it reports an expense (deductible amount) for tax purposes. Because of this temporary difference, Safaricom should recognize in 2010 the tax benefits (positive tax consequences) for the tax deductions that will result from the future settlement of the liability. Safaricom reports this future tax benefit in the December 31, 2010, balance sheet as a **deferred tax asset**. We can think about this situation another way. Deductible amounts occur in future tax returns. These **future deductible amounts** cause taxable income to be less than pretax financial income in the future as a result of an existing temporary difference. Safaricom's temporary difference originates (arises) in one period (2010) and reverses over two periods (2011 and 2012). Illustration diagrams this Reversal of Temporary Difference, Safaricom Inc. situation as follows.

Cumulative Temporary Difference
(Taxable income higher than pretax financial income)

Future Deductible Amounts
(Taxable income lower than pretax financial income)



1.3 Recognition of Current and Deferred Tax Asset

A **deferred tax asset** is the deferred tax consequence attributable to deductible temporary differences. In other words, a **deferred tax asset represents the increase in taxes refundable (or saved) in future years as a result of deductible temporary differences existing at the end of the current year**.

To illustrate, assume that Hunt Co. accrues a loss and a related liability of $50,000 in 2010 for financial reporting purposes because of pending litigation. Hunt cannot deduct this amount for tax purposes until the period it pays the liability, expected in 2011. As a result, a deductible amount will occur in 2011 when Hunt settles the liability (Estimated Litigation Liability), causing taxable income to be lower than pretax financial income. The following illustration shows the computation of the deferred tax asset at the end of 2010 (assuming a 40 percent tax rate). Computation of Deferred Tax Asset, End of 2010 as follows.

Book basis of litigation liability	$50,000
Tax basis of litigation liability	–0–
Cumulative temporary difference at the end of 2010	50,000
Tax rate	40%
Deferred tax asset at the end of 2010	$20,000

Hunt can also compute the deferred tax asset by preparing a schedule that indicates the future deductible amounts due to deductible temporary differences. The illustration shows Schedule of Future Deductible Amounts.

	Future Years
Future deductible amounts	$50,000
Tax rate	40%
Deferred tax asset at the end of 2010	$20,000

Assuming that 2010 is Hunt's first year of operations, and income tax payable is $100,000, Hunt computes its income tax expense as follows.

Deferred tax asset at end of 2010	$ 20,000
Deferred tax asset at beginning of 2010	–0–
Deferred tax expense (benefit) for 2010	(20,000)
Current tax expense for 2010 (Income tax payable)	100,000
Income tax expense (total) for 2010	$ 80,000

The **deferred tax benefit** results from the increase in the deferred tax asset from the beginning to the end of the accounting period (similar to the Karamara example earlier). The deferred tax benefit is a negative component of income tax expense. The total income tax expense of $80,000 on the income statement for 2010 thus consists of two elements—current tax expense of $100,000 and a deferred tax benefit of $20,000. For Hunt, it makes the following journal entry at the end of 2010 to record income tax expense, deferred income taxes, and income tax payable.

Income Tax Expense	80,000	
Deferred Tax Asset	20,000	
Income Tax Payable		100,000

At the end of 2011 (the second year), the difference between the book value and the tax basis of the litigation liability is zero. Therefore, there is no deferred tax asset at this date. Assuming that income tax payable for 2011 is $140,000, Hunt computes income tax expense for 2011 as shown in the following illustration.

Deferred tax asset at the end of 2011	$ –0–
Deferred tax asset at the beginning of 2011	20,000
Deferred tax expense (benefit) for 2011	20,000
Current tax expense for 2011 (Income tax payable)	140,000
Income tax expense (total) for 2011	$160,000

The company records income taxes for 2011 as follows.

Income Tax Expense	160,000	
Deferred Tax Asset		20,000
Income Tax Payable		140,000

The total income tax expense of $160,000 on the income statement for 2011 thus consists of two elements—current tax expense of $140,000 and deferred tax expense of $20,000. The following Illustration shows the Deferred Tax Asset account after Reversals at the end of 2011.

Deferred Tax Asset			
2010	20,000	2011	20,000

"REAL ASSETS"

A key issue in accounting for income taxes is whether a company should recognize a deferred tax asset in the financial records. Based on the conceptual definition of an asset, a deferred tax asset meets the three main conditions for an item to be recognized as an asset:

1. *It results from a past transaction*. In the Hunt example, the accrual of the loss contingency is the past event that gives rise to a future deductible temporary difference.

2. *It gives rise to a probable benefit in the future*. Taxable income exceeds pretax financial income in the current year (2010). However, in the next year the exact opposite occurs. That is, taxable income is lower than pretax financial income. Because this deductible temporary difference reduces taxes payable in the future, a probable future benefit exists at the end of the current period.

3. *The entity controls access to the benefits*. Hunt can obtain the benefit of existing deductible temporary differences by reducing its taxes payable in the future. Hunt has the exclusive right to that benefit and can control others' access to it.

Market analysts' reactions to the **write-off** of deferred tax assets also supports their treatment as assets. When **Bethlehem Steel** reported a $1 billion charge in a recent year to write off a deferred tax asset, analysts believed that Bethlehem was signaling that it would not realize the future benefits of the tax deductions. Thus, Bethlehem should write down the asset like other assets.

Deferred Tax Asset—Valuation Allowance

Companies recognize a deferred tax asset for all deductible temporary differences. However, based on available evidence, a company should reduce a deferred tax asset by a **valuation allowance** if **it is more likely than not** that it **will not realize** some portion or all of the deferred tax asset. **"More likely than not"** means a level of likelihood of at least slightly more than 50 percent.

Assume that Jensen Co. has a deductible temporary difference of $1,000,000 at the end of its first year of operations. Its tax rate is 40 percent, which means it records a deferred tax asset of $400,000 ($1,000,000 X 40%). Assuming $900,000 of income taxes payable, Jensen how to records income tax expense, the deferred tax asset, and income tax payable as follows.

Income Tax Expense	500,000	
Deferred Tax Asset	400,000	
Income Tax Payable		900,000

After careful review of all available evidence, Jensen determines that it is more likely not that it will not realize $100,000 of this deferred tax asset. Jensen records this reduction in asset value as follows.

Income Tax Expense	100,000	
Allowance to Reduce Deferred Tax Asset to Expected Realizable Value		100,000

This journal entry increases income tax expense in the current period because Jensen does not expect to realize a favorable tax benefit for a portion of the deductible temporary difference. Jensen **simultaneously establishes a valuation allowance to recognize the reduction in the carrying amount of the deferred tax asset**. This valuation account is a contra account. Jensen reports it on the financial statements in the Balance Sheet Presentation of Valuation Allowance Account the following manner.

Deferred tax asset	$400,000
Less: Allowance to reduce deferred tax asset to expected realizable value	100,000
Deferred tax asset (net)	$300,000

Jensen then evaluates this allowance account at the end of each accounting period. If, at the end of the next period, the deferred tax asset is still $400,000, but now it expects to realize $350,000 of this asset, Jensen makes the following entry to adjust the valuation account.

Allowance to Reduce Deferred Tax Asset		
to Expected Realizable Value	50,000	
Income Tax Expense		50,000

Jensen should consider all available evidence, both positive and negative, to determine whether, based on the weight of available evidence, it needs a valuation allowance. For example, if Jensen has been experiencing a series of loss years, it reasonably assumes that these losses will continue. Therefore, Jensen will lose the benefit of the future deductible amounts.

1.4 Accounting for Net Operating Losses

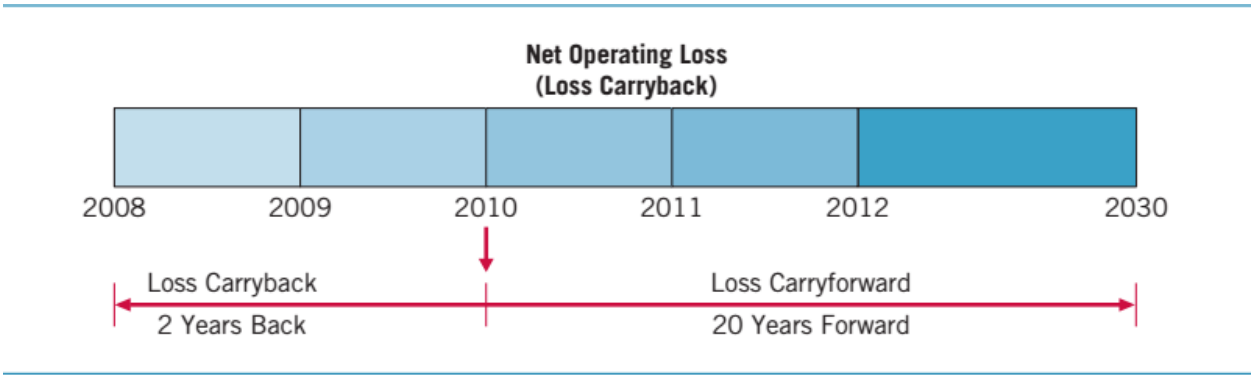
Every management hopes its company will be profitable. But hopes and profits may not materialize. For a start-up company, it is common to accumulate operating losses while expanding its customer base but before realizing economies of scale. For an established company, a major event such as a labor strike, rapidly changing regulatory and competitive forces, or a natural disaster such as flood, earthquake can cause expenses to exceed revenues—a net operating loss.

A **net operating loss (NOL)** occurs for tax purposes in a year when tax-deductible expenses exceed taxable revenues. An inequitable tax burden would result if companies were taxed during profitable periods without receiving any tax relief during periods of net operating losses. Under certain circumstances, therefore, the federal tax laws permit taxpayers to use the losses of one year to offset the profits of other years. Companies accomplish this income-averaging provision through the **carry back and carry forward of net operating losses**. Under this provision, a company pays no income taxes for a year in which it incurs a net operating loss. In addition, it may select one of the two options discussed below.

Loss Carry back

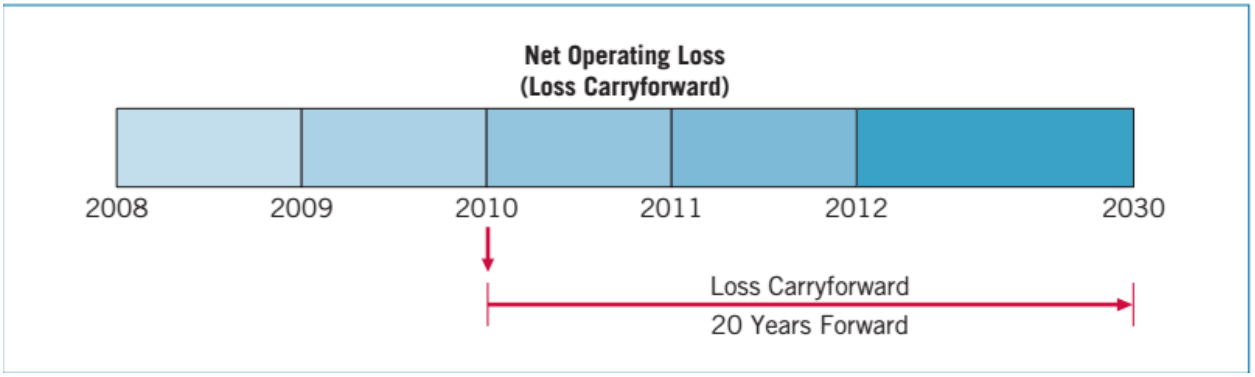
Through use of a **loss carry back**, a company may carry the net operating loss back two years and receive refunds for income taxes paid in those years. The company must apply the loss

to the earlier year first and then to the second year. It may **carry forward** any loss remaining after the two-year carry back up to 20 years to offset future taxable income. The following illustration diagrams the loss carry back procedure, assuming a loss in 2010.



Loss Carry forward

A company may forgo the loss carry back and use only the **loss carry forward** option, offsetting future taxable income for up to 20 years. The next illustration shows this approach.



Operating losses can be substantial. For example, **Yahoo!** had net operating losses of approximately $5.4 billion in a recent year. That amount translates into tax savings of $1.4 billion if Yahoo! is able to generate taxable income before the NOLs expire.

Loss Carry back Example

To illustrate the accounting procedures for a net operating loss carry back, assume that Groh Inc. has no temporary or permanent differences. Groh experiences the following.

Year	Taxable Income or Loss	Tax Rate	Tax Paid
2006	$ 50,000	35%	$17,500
2007	100,000	30%	30,000
2008	200,000	40%	80,000
2009	(500,000)	—	–0–

In 2009, Groh incurs a net operating loss that it decides to carry back. Under the law, Groh must apply the carry back first to the **second year preceding the loss year**. Therefore, it carries the loss back first to 2007. Then, Groh carries back any unused loss to 2008. Accordingly, Groh files amended tax returns for 2007 and 2008, receiving refunds for The $110,000 ($30,000 + $80,000) of taxes paid in those years.

For accounting as well as tax purposes, the $110,000 represents the **tax effect (tax benefit)** of the loss carry back. Groh should recognize this tax effect in 2009, the loss year. Since the tax loss gives rise to a refund that is both measurable and currently realizable, Groh should recognize the associated tax benefit in this loss period. Groh makes the following journal entry for 2009.

Income Tax Refund Receivable	110,000	
Benefit Due to Loss Carry back (Income Tax Expense)		110,000

Groh reports the account debited, **Income Tax Refund Receivable**, on the balance sheet as a current asset at December 31, 2009. It reports the account credited on the income statement for 2009 as shown below.

GROH INC.
INCOME STATEMENT (PARTIAL) FOR 2009

Operating loss before income taxes	$(500,000)
Income tax benefit	
Benefit due to loss carryback	110,000
Net loss	$(390,000)

This illustration shows Recognition of Benefit of the Loss Carry back in the Loss Year

Since the $500,000 net operating loss for 2009 exceeds the $300,000 total taxable income from the 2 preceding years, Groh carries forward the remaining $200,000 loss.

Loss Carry forward Example

If a carry back fails to fully absorb a net operating loss, or if the company decides not to carry the loss back, then it can carry forward the loss for up to 20 years. Because companies use carry forwards to offset future taxable income, the **tax effect of a loss carry forward** represents **future tax savings**. Realization of the future tax benefit depends on future earnings, an uncertain prospect.

The key accounting issue is whether there should be different requirements for recognition of a deferred tax asset for (a) deductible temporary differences, and (b) operating loss carry forwards. The FASB's position is that in substance these items are the same—both are tax-deductible amounts in future years. As a result, the Board concluded that there **should not be different requirements** for recognition of a deferred tax asset from deductible temporary differences and operating loss carry forwards.

Carry forward without Valuation Allowance

To illustrate the accounting for an operating loss carry forward, return to the Groh example from the preceding section. In 2009 the company records the tax effect of the $200,000 loss carry forward as a deferred tax asset of $80,000 ($200,000 X 40%), assuming that the enacted future tax rate is 40 percent. Groh records the benefits of the carry back and the carry forward in 2009 as follows.

To recognize benefit of loss carry back

Income Tax Refund Receivable	110,000	
Benefit Due to Loss Carry back (Income Tax Expense)		110,000

To recognize benefit of loss carry forward

Deferred Tax Asset	80,000	
Benefit Due to Loss Carry forward (Income Tax Expense)		80,000

Groh realizes the income tax refund receivable of $110,000 immediately as a refund of taxes paid in the past. It establishes a Deferred Tax Asset for the benefits of future tax savings. The two accounts credited are contra income tax expense items, which Groh presents on the 2009 income statement shown in illustration.

GROH INC.
INCOME STATEMENT (PARTIAL) FOR 2009

Operating loss before income taxes		$(500,000)
Income tax benefit		
Benefit due to loss carryback	$110,000	
Benefit due to loss carryforward	80,000	190,000
Net loss		$(310,000)

This illustration shows Recognition of the Benefit of the Loss Carry back and Carry forward in the Loss Year

The **current tax benefit** of $110,000 is the income tax refundable for the year. Groh determines this amount by applying the carry back provisions of the tax law to the taxable loss for 2009. The $80,000 is the **deferred tax benefit** for the year, which results from an increase in the deferred tax asset.

For 2010, assume that Groh returns to profitable operations and has taxable income of $250,000 (prior to adjustment for the NOL carry forward), subject to a 40 percent tax rate. Groh then realizes the benefits of the carry forward for tax purposes in 2010, which it recognized for accounting purposes in 2009. Groh computes the income tax payable with Realized Loss Carry forward for 2010 as shown below.

Taxable income prior to loss carryforward	$ 250,000
Loss carryforward deduction	(200,000)
Taxable income for 2010	50,000
Tax rate	40%
Income tax payable for 2010	$ 20,000

Groh records income taxes in 2010 as follows.

Income Tax Expense	100,000	
Deferred Tax Asset		80,000
Income Tax Payable		20,000

This requirement is controversial because many believe it is inappropriate to recognize deferred tax assets except when assured beyond a reasonable doubt. Others argue that companies should never recognize deferred tax assets for loss carry forwards until realizing the income in the future.

The benefits of the NOL carry forward, realized in 2010, reduce the Deferred Tax Asset account to zero. The 2010 income statement that appears in Illustration 19-34 does **not report** the tax effects of either the loss carry back or the loss carry forward, because Groh had reported both previously.

GROH INC.
INCOME STATEMENT (PARTIAL) FOR 2010

Income before income taxes		$250,000
Income tax expense		
Current	$20,000	
Deferred	80,000	100,000
Net income		$150,000

Presentation of the Benefit of Loss Carry forward Realized in 2010, Recognized in 2009

Carry forward with Valuation Allowance

Let us return to the Groh example. Assume that it is more likely than not that Groh will *not* realize the entire NOL, carry forward in future years. In this situation, Groh records the tax benefits of $110,000 associated with the $300,000 NOL carry back, as we previously described. In addition, it records a Deferred Tax Asset of $80,000 ($200,000 X 40%) for the potential benefits related to the loss carry forward, and an allowance to reduce the deferred tax asset by the same amount. Groh makes the following journal entries in 2009.

To recognize benefit of loss carry back

Income Tax Refund Receivable	110,000	
Benefit Due to Loss Carry back (Income Tax Expense)		110,000

To recognize benefit of loss carry forward

Deferred Tax Asset	80,000	
Benefit Due to Loss Carry forward (Income Tax Expense)		80,000

To record allowance amount

Benefit Due to Loss Carry forward (Income Tax Expense)	80,000	
Allowance to Reduce Deferred Tax Asset to Expected Realizable Value		80,000

The latter entry indicates that because positive evidence of sufficient quality and quantity is unavailable to counteract the negative evidence, Groh needs a valuation allowance. The following Illustration 19-35 shows Groh's 2009 income statement presentation and Recognition of Benefit of Loss Carry back only.

GROH INC.
INCOME STATEMENT (PARTIAL) FOR 2009

Operating loss before income taxes	$(500,000)
Income tax benefit	
Benefit due to loss carryback	110,000
Net loss	$(390,000)

In 2010, assuming that Groh has taxable income of $250,000 (before considering the carry forward), subject to a tax rate of 40 percent, it realizes the deferred tax asset. It thus no longer needs the allowance. Groh records the following entries.

To record current and deferred income taxes

Income Tax Expense	100,000	
Deferred Tax Asset		80,000
Income Tax Payable		20,000

To eliminate allowance and recognize loss carry forward

Allowance to Reduce Deferred Tax Asset to Expected Realizable Value	80,000	
Benefit Due to Loss Carry forward (Income Tax Expense)		80,000

Groh reports the $80,000 Benefit Due to the Loss Carry forward on the 2010 income statement. The company did not recognize it in 2009 because it was more likely than not that it would not be realized. Assuming that Groh derives the income for 2010 from continuing operations, it prepares the income statement as shown in Illustration and Recognition of Benefit of Loss Carry forward When Realized.

GROH INC.
INCOME STATEMENT (PARTIAL) FOR 2010

Income before income taxes		$250,000
Income tax expense		
Current	$ 20,000	
Deferred	80,000	
Benefit due to loss carryforward	(80,000)	20,000
Net income		$230,000

Another method is to report only one line for total income tax expense of $20,000 on the face of the income statement and disclose the components of income tax expense in the notes to the financial statements.

1.5 Income Tax Presentation and Disclosure

1.1

Circumstances dictate whether a company should add or subtract the change in deferred income taxes to or from income tax payable in computing income tax expense. For example, a company adds an increase in a deferred tax liability to income tax payable. On the other hand, it subtracts an increase in a deferred tax asset from income tax payable. The formula is used to compute income tax expense (benefit).

Income Tax Payable or Refundable Taxes	±	**Change in Deferred Income**	=	**Total Income Tax Expense or Benefit**

In the income statement or in the notes to the financial statements, a company should disclose the significant components of income tax expense attributable to continuing operations. Given the information related to Karamara, Karamara reports its income statement Presentation of Income Tax Expense as follows.

KARAMARA INC.

INCOME STATEMENT

FOR THE YEAR ENDING DECEMBER 31, 2010

Revenues		$130,000
Expenses		60,000
Income before income taxes		70,000
Income tax expense		
Current	$16,000	
Deferred	12,000	28,000
Net income		$ 42,000

As illustrated, Karamara reports both the current portion (amount of income tax payable for the period) and the deferred portion of income tax expense. Another option is to simply report the total income tax expense on the income statement, and then indicate in the notes to the financial statements the current and deferred portions. Income tax expense is often referred to as "Provision for income taxes." Using this terminology, the current provision is $16,000, and the provision for deferred taxes is $12,000.

Specific Differences

Numerous items create differences between pretax financial income and taxable income. For purposes of accounting recognition, these differences are of two types: (1) temporary, and (2) permanent.

Temporary Differences

Taxable temporary differences are temporary differences that will result in taxable amounts in future years when the related assets are recovered. **Deductible temporary differences** are temporary differences that will result in deductible amounts in future years, when the related book liabilities are settled. Taxable temporary differences give rise to recording deferred tax liabilities. Deductible temporary differences give rise to recording deferred tax assets. The following illustration provides examples of temporary differences.

A. Revenues or gains are taxable after they are recognized in financial income.

An asset (e.g., accounts receivable or investment) may be recognized for revenues or gains that will result in **taxable amounts in future years** when the asset is recovered. Examples:

1. Sales accounted for on the accrual basis for financial reporting purposes and on the installment (cash) basis for tax purposes.
2. Contracts accounted for under the percentage-of-completion method for financial reporting purposes and a portion of related gross profit deferred for tax purposes.
3. Investments accounted for under the equity method for financial reporting purposes and under the cost method for tax purposes.
4. Gain on involuntary conversion of nonmonetary asset which is recognized for financial reporting purposes but deferred for tax purposes.
5. Unrealized holding gains for financial reporting purposes (including use of the fair value option), but deferred for tax purposes.

B. Expenses or losses are deductible after they are recognized in financial income.

A liability (or contra asset) may be recognized for expenses or losses that will result in **deductible amounts in future years** when the liability is settled. Examples:

1. Product warranty liabilities.
2. Estimated liabilities related to discontinued operations or restructurings.
3. Litigation accruals.
4. Bad debt expense recognized using the allowance method for financial reporting purposes; direct write-off method used for tax purposes.
5. Stock-based compensation expense.
6. Unrealized holding losses for financial reporting purposes (including use of the fair value option), but deferred for tax purposes.

C. Revenues or gains are taxable before they are recognized in financial income.

A liability may be recognized for an advance payment for goods or services to be provided in future years. For tax purposes, the advance payment is included in taxable income upon the receipt of cash. Future sacrifices to provide goods or services (or future refunds to those who cancel their orders) that settle the liability will result in **deductible amounts in future years**.

Examples:

1. Subscriptions received in advance.

2. Advance rental receipts.
3. Sales and leasebacks for financial reporting purposes (income deferral) but reported as sales for tax purposes.
4. Prepaid contracts and royalties received in advance.

D. Expenses or losses are deductible before they are recognized in financial income.

The cost of an asset may have been deducted for tax purposes faster than it was expensed for financial reporting purposes. Amounts received upon future recovery of the amount of the asset for financial reporting (through use or sale) will exceed the remaining tax basis of the asset and thereby result in **taxable amounts in future years**. Examples:

1. Depreciable property, depletable resources, and intangibles.
2. Deductible pension funding exceeding expense.
3. Prepaid expenses that are deducted on the tax return in the period paid.

Determining a company's temporary differences may prove difficult. A company should prepare a balance sheet for tax purposes that it can compare with its GAAP balance sheet. Many of the differences between the two balance sheets are temporary differences.

Originating and Reversing Aspects of Temporary Differences. An **originating temporary difference** is the initial difference between the book basis and the tax basis of an asset or liability, regardless of whether the tax basis of the asset or liability exceeds or is exceeded by the book basis of the asset or liability. A **reversing difference**, on the other hand, occurs when eliminating a temporary difference that originated in prior periods and then removing the related tax effect from the deferred tax account.

For example, assume that Sharp Co. has tax depreciation in excess of book depreciation of $2,000 in 2008, 2009, and 2010. Further, it has an excess of book depreciation over tax depreciation of $3,000 in 2011 and 2012 for the same asset. Assuming a tax rate of 30 percent for all years involved, the Deferred Tax Liability account reflects the following

Deferred Tax Liability

Tax Effects Of Reversing Differences	2011	900	2008	600	Tax Effects of originating Differences
	2012	900	2009	600	
			2010	600	

The originating differences for Sharp in each of the first three years are $2,000. The related tax effect of each originating difference is $600. The reversing differences in 2011 and 2012 are each $3,000. The related tax effect of each is $900.

Permanent Differences

Some differences between taxable income and pretax financial income are permanent. **Permanent differences** result from items that (1) enter into pretax financial income but **never** into taxable income, or (2) enter into taxable income but **never** into pretax financial income. Congress has enacted a variety of tax law provisions to attain certain political, economic, and social objectives.

Some of these provisions exclude certain revenues from taxation, limit the deductibility of certain expenses, and permit the deduction of certain other expenses in excess of costs incurred. A corporation that has tax-free income, nondeductible expenses, or allowable deductions in excess of cost, has an effective tax rate that differs from its statutory (regular) tax rate. Since permanent differences affect only the period in which they occur, they do not give rise to future taxable or deductible amounts. As a result, **companies recognize no deferred tax consequences**. The following illustration shows examples of permanent differences.

A. **Items are recognized for financial reporting purposes but not for tax purposes.**

Examples:

1. Interest received on state and municipal obligations.
2. Expenses incurred in obtaining tax-exempt income.
3. Proceeds from life insurance carried by the company on key officers or employees.
4. Premiums paid for life insurance carried by the company on key officers or employees (company is beneficiary).
5. Fines and expenses resulting from a violation of law.

B. **Items are recognized for tax purposes but not for financial reporting purposes.**

Examples:

1. "Percentage depletion" of natural resources in excess of their cost.

2. The deduction for dividends received from U.S. corporations, generally 70% or 80%.

Examples of Temporary and Permanent Differences

To illustrate the computations used when both temporary and permanent differences exist, assume that Bio-Tech Company reports pretax financial income of $200,000 in each of the years 2008, 2009, and 2010. The company is subject to a 30 percent tax rate, and has the following differences between pretax financial income and taxable income.

1. Bio-Tech reports an installment sale of $18,000 in 2008 for tax purposes over an 18-month period at a constant amount per month beginning January 1, 2009. It recognizes the entire sale for book purposes in 2008.
2. It pays life insurance premiums for its key officers of $5,000 in 2009 and 2010. Although not tax-deductible, Bio-Tech expenses the premiums for book purposes.

The installment sale is a temporary difference, whereas the life insurance premium is a permanent difference. The following illustration shows the reconciliation of Bio-Tech's pretax financial income to taxable income and the computation of income tax payable.

	2008	2009	2010
Pretax financial income	$200,000	$200,000	$200,000
Permanent difference			
Nondeductible expense		5,000	5,000
Temporary difference			
Installment sale	(18,000)	12,000	6,000
Taxable income	182,000	217,000	211,000
Tax rate	30%	30%	30%
Income tax payable	$ 54,600	$ 65,100	$ 63,300

Note that Bio-Tech **deducts** the installment sales revenue from pretax financial income to arrive at taxable income. The reason: pretax financial income includes the installment sales revenue; taxable income does not. Conversely, it **adds** the $5,000 insurance premium to pretax financial income to arrive at taxable income. The reason: pretax financial income records an expense for

this premium, but for tax purposes the premium is not deductible. As a result, pretax financial income is lower than taxable income. Therefore, the life insurance premium must be added back to pretax financial income to reconcile to taxable income.

Bio-Tech records income taxes for 2008, 2009, and 2010 as follows.

December 31, 2008		
Income Tax Expense ($54,600 $5,400)	60,000	
Deferred Tax Liability ($18,000 30%)		5,400
Income Tax Payable ($182,000 30%)		54,600
December 31, 2009		
Income Tax Expense ($65,100 $3,600)	61,500	
Deferred Tax Liability ($12,000 30%)	3,600	
Income Tax Payable ($217,000 30%)		65,100
December 31, 2010		
Income Tax Expense ($63,300 $1,800)	61,500	
Deferred Tax Liability ($6,000 30%)	1,800	
Income Tax Payable ($211,000 30%)		63,300

Bio-Tech has one temporary difference, which originates in 2008 and reverses in 2009 and 2010. It recognizes a deferred tax liability at the end of 2008 because the temporary difference causes future taxable amounts. As the temporary difference reverses, Bio-Tech reduces the deferred tax liability. There is no deferred tax amount associated with the difference caused by the nondeductible insurance expense because it is a permanent difference.

Although an enacted tax rate of 30 percent applies for all three years, the effective rate differs from the enacted rate in 2009 and 2010. Bio-Tech computes the **effective tax rate** by dividing total income tax expense for the period by pretax financial income. The effective rate is 30 percent for 2008 ($60,000/$200,000 = 30%) and 30.75 percent for 2009 and 2010 ($61,500/$200,000 = 30.75%).

Tax Rate Considerations

In our previous illustrations, the enacted tax rate did not change from one year to the next. Thus, to compute the deferred income tax amount to report on the balance sheet, a company simply multiplies the cumulative temporary difference by the current tax rate. Using Bio-Tech as an example, it multiplies the cumulative temporary difference of $18,000 by the enacted tax rate, 30 percent in this case, to arrive at a deferred tax liability of $5,400 ($18,000 30%) at the end of 2008.

Future Tax Rates

What happens if tax rates are expected to change in the future? In this case, a company should use the **enacted tax rate** expected to apply. Therefore, a company must consider presently enacted changes in the tax rate that become effective for a particular future year(s) when determining the tax rate to apply to existing temporary differences. For example, assume that Fafen Co. at the end of 2007 has the following cumulative temporary difference of $300,000, computed as shown below.

Book basis of depreciable assets	$1,000,000
Tax basis of depreciable assets	700,000
Cumulative temporary difference	$ 300,000

Furthermore, assume that the $300,000 will reverse and result in taxable amounts in the future, with the enacted tax rates shown Deferred Tax Liability Based on Future Rates in the following illustration.

	2008	2009	2010	2011	2012	Total
Future taxable amounts	$80,000	$70,000	$60,000	$50,000	$40,000	$300,000
Tax rate	40%	40%	35%	30%	30%	
Deferred tax liability	$32,000	$28,000	$21,000	$15,000	$12,000	$108,000

The total deferred tax liability at the end of 2007 is $108,000. Fafen Co. may only use tax rates other than the current rate when the future tax rates have been enacted, as is the case in this example. If new rates are not yet enacted for future years, Fafen Co. should use the current rate.

In determining the appropriate enacted tax rate for a given year, companies must use the **average tax rate**. The Internal Revenue Service and other taxing jurisdictions tax income on a graduated tax basis. For a U.S. corporation, the IRS taxes the first $50,000 of taxable income at 15 percent, the next $25,000 at 25 percent, with higher incremental levels of income at rates as high as 39 percent. In computing deferred income taxes, companies for which graduated tax rates are a significant factor must therefore **determine the average tax rate and use that rate**.

Revision of Future Tax Rates

When a change in the tax rate is enacted companies should record its effect on the existing deferred income tax accounts immediately. **A company reports the effect as an adjustment to income tax expense in the period of the change.**

Assume that on December 10, 2007, a new income tax act is signed into law that lowers the corporate tax rate from 40 percent to 35 percent, effective January 1, 2009. If Hostel Co. has one temporary difference at the beginning of 2007 related to $3 million of excess tax depreciation, then it has a Deferred Tax Liability account with a balance of $1,200,000 ($3,000,000 40%) at January 1, 2007. If taxable amounts related to this difference are scheduled to occur equally in 2008, 2009, and 2010, the deferred tax liability at the end of 2007 is $1,100,000, computed as follows.

	2008	2009	2010	Total
Future taxable amounts	$1,000,000	$1,000,000	$1,000,000	$3,000,000
Tax rate	40%	35%	35%	
Deferred tax liability	$ 400,000	$ 350,000	$ 350,000	$1,100,000

Schedule of Future Taxable Amounts and Related Tax Rates

Hostel, therefore, recognizes the decrease of $100,000 ($1,200,000 $1,100,000) at the end of 2007 in the deferred tax liability as follows.

Deferred Tax Liabilities	100,000	
Income Tax Expense		100,000

Corporate tax rates do not change often. Therefore, companies usually employ the current rate. However, state and foreign tax rates change more frequently, and they require adjustments in deferred income taxes accordingly.

CHAPTER TWO

2. SHARE-BASED COMPENSATION

2.1 Overview of Share-based Payments

In share-based payment transactions, an entity receives goods or services from a counterparty and grants equity instruments (equity-settled share-based payment transactions) or incurs a liability to deliver cash or other assets for amounts that are based on the price (or value) of equity instruments (cash-settled share-based payment transactions) as consideration.

If the fair value of the identifiable goods or services received appears to be less than the fair value of the share-based payment, then circumstances may indicate that unidentifiable goods or services have been received. Except in group arrangements, share-based payments are either in the form of equity instruments of the entity or in cash or other assets for amounts that are based on the price (or value) of the equity instruments of the entity.

The following transactions are not in the scope of IFRS:

- transactions with counterparties acting as shareholders rather than as suppliers of goods or services;
- transactions in which a share-based payment is made in exchange for control of a business; and
- transactions in which contracts to acquire non-financial items in exchange for a share-based payment are in the scope of the financial instruments standards. Goods or services received in a share-based payment transaction are measured at fair value. Goods are recognized when they are obtained and services are recognized over the period over which they are received.

Definition of a share-based payment

A share-based payment is accounted for under IFRS if it meets the definition of a share-based payment transaction and the transaction is not specifically scoped out of the standard. For transactions that are outside the scope of IFRS. The standard does not contain a stand-alone definition of a share-based payment but provides a complex two-step definition using the terms

'share-based payment arrangement' and 'share-based payment transaction'. The definitions are as follows:-

A 'share-based payment arrangement' is an agreement between the entity (or another group entity or any shareholder of any group entity) and another party, including an employee, that entitles the other party to receive:

a. cash or other assets of the entity for amounts that are based on the price (or value) of equity instruments (including shares or share options) of the entity or another group entity; or
b. equity instruments (including shares or share options) of the entity or another group entity, provided that the specified vesting conditions are met.

A 'share-based payment transaction' is a transaction in which the entity:

a. receives goods or services from the supplier of those goods or services, including an employee, in a share-based payment arrangement; or
b. incurs an obligation to settle the transaction with the supplier in a share based payment arrangement when another group entity receives those goods or services.

In defining a share-based payment arrangement, a 'group' is defined as a parent and its subsidiaries as set out in IFRS Consolidated *Financial Statements*. This determination is made from the perspective of the reporting entity's ultimate parent. The requirement to treat transactions involving instruments of another entity as share-based payments applies only to transactions involving equity instruments of a group entity. These definitions are complex because they include not only share-based payments that involve the reporting entity and the supplier, but also those that involve other group entities or shareholders. This handbook distinguishes between the following types of share-based payment transactions:

1. share-based payment transactions that involve only the supplier of goods or services and the reporting entity – i.e. the reporting entity receives the goods or services and settles the transaction in its own equity instruments or in a payment based on its own equity instruments; and
2. Share-based payment transactions that involve the supplier, the reporting entity and at least one other group entity or a shareholder of any group entity (group share-based payment transactions).

2.2 Share-based Payments Settled with Equity

Most employee share option schemes are based on share-based payments where 'the entity receives goods or services as consideration for equity instruments (including shares or share options)'. We will introduce the basic principles using one of the examples. An entity grants 100 options to each of its 500 employees. Each grant is conditional on:

- the employee working for the entity for three years;
- the entity achieving an 18 per cent increase in its share price by the end of the three-year service period.

The entity estimates that the value of each option is Currency Units (CU) 15 before adjusting for the probability of staff leaving before the end of the period or for the probability that the target increase of 18 per cent will not be achieved.

Let us assume that the entity estimates that 20 percent of its staff will not stay for the required three-year period and further that they will leave at a steady rate over the period; let us also assume that the entity estimates that the probability that the performance target will not be met is 0.85. On the basis of these, possibly heroic, assumptions the total fair value of the options at the grant date is given by the product of the estimated number of staff in post at the end of the period, the probability that the target will be achieved and the fair value of the options that are awarded to each individual:

$$500 \times 0.80 \times 0.85 \times \text{CU}15 \times 100 = \text{CU}510\,000$$

We also have to work out the expected number of years of service that will be supplied by the employees. Twenty per cent of the employees are expected to leave during the period and, as we are assuming that the departures will occur evenly over the period, we will expect that the 100 leavers will provide $100 \times 1.5 = 150$ years of service that together with the 1200 years of service from those who stay the course gives a total of 1350. Thus the estimated fair value of each unit (or year) of service is CU510000/1350 = CU377.77.

Readers will note the nature of the assumptions that have to be made in order to arrive at this figure. First, it is necessary to determine the fair value of each option, here CU15, using

an option-pricing model. This is a difficult task. Next it is necessary to estimate the rate of staff turnover, the rate of which is likely to be affected by changes in general economic conditions as well as by the introduction of the share option scheme itself. It is also necessary to estimate the probability of the agreed target not being achieved and it is difficult to see how a substantial element of objectivity can be introduced into this process. The nature and magnitude of the estimates that have to be made provides strong ammunition for those who are opposing the implementation of the proposals.

Let us suppose that the entity actually receives 430 units (years) of service in year 1, 400 in year 2 and 375 in year 3. Then the expense that will be recognized in each of the three years is as given below.

	Currency Unit
Year 1 430 × CU 377.77	= 162 441
Year 2 400 × CU 377.77	= 151 108
Year 3 375 × CU 377.77	= 141 664
Total	**455 213**

The actual expense recognized is less than the original estimate of CU510 000 because fewer units of service were provided than had been estimated; if more units of service had been provided the total would have been greater.

Each year the profit and loss account would be debited and equity credited with the appropriate amount. The element of equity that would be credited would in some countries be described as ‘other equity’ but in the UK would probably be described as ‘potential share options’. We now come to the end of the vesting period. Let us first assume that the financial target of 18 per cent growth in the share price has been achieved so that the share options can be exercised.

Then, in respect of those options that are exercised, cash would be debited with the consideration, if any, and share capital credited. Similarly a transfer would be made between other equity (share options), and share capital and share premium, where appropriate, of the amount previously credited in respect of the options that are taken up. What if the options are not taken up, either because the performance target is not met or

because some employees do not avail themselves of the right to acquire the shares? The answer which is perhaps surprising is nothing. The argument is that the service has been rendered and that the consideration for the service was the fair value of the options granted. The lapsing of the option does not represent a gain to the entity because there is no change in the entity's net assets. The lapsing of the option merely represents the transfer of one type of equity, share options, to another part of the equity interest and hence the Board believes that the only accounting entry that would be required is a movement within equity to reflect the fact that the options are no longer outstanding.

Had the Board adopted the discussion paper's proposal that the fair values should be calculated on their vesting day then it would have been necessary to make an estimate each year of the accrual based on the fair value of the shares or options at the year end. Consequently the charge for each year would be comprised of the charge for the services of the employees during the year together with a charge or credit reflecting changes in the previous accrual.38 The Board rejected this approach, for the same reason as was advanced for not adjusting for cancelled options, that the changes to the accrual represent changes within equity and should not affect the profit and loss account.

2.3 Share-based Payment Cash-settled Transactions

With these schemes, the employees are paid in cash but the amount of the payment depends on the change in the price of the entity's shares or other equity interests. Here the accrual at any one time is the best estimate, using an option-pricing model that will have to be paid to the employees still eligible under the scheme. As such schemes involve a potential reduction in resources through the payment of cash, adjustments to accruals are dealt with through the profit and loss account.40 However, the Board believes that users will find it relevant to know the extent to which the charge for the year has been affected by changes in the estimates of fair values so Para. 52(b) requires the disclosure of the portion of the expense that is attributable to the transaction being measured as a cash-settled rather than an equity-settled transaction.

Cash-settled share-based payment transactions occur where goods or services are paid for at amounts that are based on the price of the company's equity instruments. The expense for cash settled transactions is the cash paid by the company.

As an example, share appreciation rights entitle employees to cash payments equal to the increase in the share price of a given number of the company's shares over a given period. This creates a liability, and the recognized cost is based on the fair value of the instrument at the reporting date. The fair value of the liability is re-measured at each reporting date until settlement.

EXAMPLE 1

A company issued share options on 1 June 20X6 to pay for the purchase of inventory. The inventory is eventually sold on 31 December 20X8. The value of the inventory on 1 June 20X6 was $6m and this value was unchanged up to the date of sale. The sale proceeds were $8m. The shares issued have a market value of $6.3m. How will this purchase of inventory be dealt with in the financial statements?

Answer

IFRS 2 states that the fair value of the goods and services received should be used to value the share options unless the fair value of the goods cannot be measured reliably. Thus equity would be increased by $6m and inventory increased by $6m. The inventory value will be expensed on sale.

Performance conditions

Schemes often contain conditions which must be met before there is entitlement to the shares. These are called vesting conditions. If the conditions are specifically related to the market price of the company's shares then such conditions are ignored for the purposes of estimating the number of equity shares that will vest. The thinking behind this is that these conditions have already been taken into account when fair valuing the shares. If the vesting or performance conditions are based on, for example, the growth in profit or earnings per share, then it will have to be taken into account in estimating the fair value of the option at the grant date.

EXAMPLE 2

A company grants 2,000 share options to each of its three directors on 1 January 20X6, subject to the directors being employed on 31 December 20X8. The options vest on 31 December 20X8. The fair value of each option on 1 January 20X6 is $10, and it is anticipated that on 1 January 20X6 all of the share options will vest on 31 December 20X8. The options will only vest if the company's share price reaches $14 per share.

The share price at 31 December 20X6 is $8 and it is not anticipated that it will rise over the next two years. It is anticipated that on 31 December 20X6 only two directors will be employed on 31 December 20X8. How will the share options be treated in the financial statements for the year ended 31 December 20X6?

Answer

The market-based condition (i.e the increase in the share price) can be ignored for the purpose of the calculation. However the employment condition (it is a vesting condition) must be taken into account. The options will be treated as follows:

2,000 options x 2 directors x $10 x 1 year / 3 years = $13,333

Equity will be increased by this amount and an expense shown in profit or loss for the year ended 31 December 20X6. Note only 2 directors are used in the calculation as this is the estimate of those who will actually qualify for the share options. The expense is spread over the vesting period (1 January 20X6 to 31 December 20X8).

EXAMPLE 3

Jay, a public limited company, has granted 300 share appreciation rights to each of its 500 employees on 1 August 20X5. The management feel that as at 31 July 20X6, the yearend of Jay, 80% of the awards will vest on 31 July 20X7. The fair value of each share appreciation right on 31 July 20X6 is $15. What is the fair value of the liability to be recorded in the financial statements for the year ended 31 July 20X6?

Answer

300 rights x 500 employees x 80% x $15 x 1 year / 2 years = $900,000

2.4 Share-based Payments with Cash Alternatives

Certain contracts provide either the issuer or the holder with the choice of settling the transaction with either cash or equity instruments. As a matter of principle under International Financial Reporting Standards (IFRS), both the liability (right to demand cash or other assets) and equity (obligation to transfer equity instruments rather than cash) components should individually be measured and recognized. For the liability component, the entity recognizes the goods or services acquired, and a liability to pay for those services, as the Counterparty provides the goods or services. This requirement is similar for cash-settled share-based payment transactions.

For the equity component (if any), the entity recognizes the goods and services received, and an increase in equity, as the counterparty provides the goods or services in the same manner as other equity-settled share-based payment transactions. At the settlement date, the liability is remeasured to fair value and either reduced to zero if cash is paid, or reclassified to equity if equity instruments are issued. Any amount already recognized in equity remains within equity (reclassifications within equity are allowed).

The recognition and measurement of each component will depend on which party has the choice of settlement and whether the transaction is with employees or non-employees. If the counterparty has the choice of settlement, the entity has issued a compound financial instrument, which comprises a debt component and an equity component. Similar to the accounting requirements for compound instruments in IAS 32 Financial Instruments: Disclosure and Presentation, once the split between the liability component and equity component is performed at issuance, that split should not be subsequently revised.

Illustration – Cash alternatives, fair value of equity instruments

Company K issues 100 share options to each of its 10 directors with a 3-year vesting period. Company K is a private company whose shares cannot be acquired outside of holding these instruments. Company K has a practice of paying dividends on its shares. The strike price of the options and the fair value of Company K's ordinary shares was $15 at the date of issuance. Once the options become exercisable, the directors may elect to receive either 100 shares for $15 each (strike price), or receive cash payment equal to the fair value of the shares at the date of exercise, less $10 per share. (If the strike price of the cash alternative is equal to or greater than the current fair value of the ordinary shares, the equity alternative will equal nil. In those cases, the entire share-based payment will be accounted for as a cash-settled share-based payment.)

At the end of years 1, 2, and 3, Company K's share price was $19, $22, and $25, respectively. Company K estimates the grant date fair value of the options (ignoring the cash alternative) to be $12 per option. As a result, the fair value of the instrument is $12,000 (1,000 x $12) at grant date. The fair value of the cash alternative is $5,000 [1,000 x ($15-$10)] at the grant date. Therefore, the fair value of the equity component of the compound instrument is $7,000 (12,000 – 5,000). The following entries would be made:

Year 1

Expense	5,333	
Liability		3,000
Equity		2,333

Liability: [1,000 x (19-10) x (1 year/3 years)]

Equity: [7,000 x (1 year/3 years)]

Year 2

Expense	7,333	
Liability		5,000
Equity		2,333

Liability: [1,000 x (22-10) x (2 year/3 years)] – [3,000]

Equity: [7,000 x (1 year/3 years)]

Year 3

Expense	9,334	
Liability		7,000
Equity		2,334

Liability: [1,000 x (25-10)] – [3,000 + 5,000]

Equity: [7,000 x (1 year/3 years)]

If the directors choose the cash option, the liability is reduced to nil, however, the equity component remains at $7,000. If the directors choose the share option, the liability is reclassified to equity. Consistent with the accounting for cash-settled share options, the liability should be marked to fair value until the date of exercise or forfeiture.

For transactions with parties other than employees, IFRS 2 has a rebuttable presumption that the fair value of the goods and services received can be measured reliably. The share-based payment is then measured at the fair value of the goods or services received. When share-based payments to parties other than employees have cash alternatives, the equity component is measured as the difference between the fair value of the debt component and the fair value of the goods or services received.

- If the entity elects to settle in cash, the cash payment is accounted for as the repurchase of equity interests (a deduction from equity).
- If the entity elects to settle in cash and this amount is greater than the fair value of the equity instruments, an additional expense for the excess value given (determined at the settlement date) is recognized.
- If the entity elects to settle in equity instruments and the fair value of these equity instruments the settlement date is greater than the cash alternative, an additional expense for the excess value given (determined at the settlement date) is recognized.

If the issuer has the choice of settlement, the transaction should be accounted for as an equity-settled transaction, unless the entity has a present obligation to settle in cash. The entity may have a present obligation to settle in cash if, for example, the equity choice has no commercial substance, or the entity has a past practice or stated policy of settling in cash. If the transaction is accounted for as an equity-settled share-based payment, the

following adjustments may be required upon settlement:

It should be noted that the accounting requirements that stem from the classification as an equity- settled or cash-settled share-based payment differ from the requirements for the classification of a financial instrument as an equity instrument or a financial liability under International Accounting Standard. For example, a transaction that may be settled by a variable amount of shares may be considered a liability under International Accounting Standard, but an equity transaction under IFRS.

2.5 Counterparty Has Choice of Settlement

In certain circumstances, share-based payment transactions may provide either the entity or the counterparty with a choice as to whether settlement occurs in equity instruments or cash. The basic principle to be applied is as follows.

For share-based payment transactions in which the terms of the arrangement provide either the entity or the counterparty with the choice of whether the entity settles the transaction in cash (or other assets) or by issuing equity instruments, the transactions, or the components of that transaction, are accounted for:

- As a cash-settled share-based payment transaction if, and to the extent that, the entity has incurred a liability to settle in cash or other assets; or
- As an equity-settled share-based payment transaction if, and to the extent that, no such liability has been incurred.

IFRS contains more detailed requirements concerning the application of this principle to share based payment transactions in which the terms of the arrangement:

- provide the counterparty with a choice of settlement; and
- provide the entity with a choice of settlement.

Counterparty's choice

If the counterparty has the choice as to whether the entity settles a share-based payment transaction in cash or with equity instruments, the entity has granted a compound financial instrument, similar to convertible debt. The instrument has:

- a debt component – the counterparty's right to demand cash; and
- an equity component – the counterparty's option to receive equity instruments rather than cash.

Each component is accounted for separately, similar to the equivalent requirements of IAS as described below.

The following example illustrates the need to consider the substance of the arrangement where the cash alternative is provided through a separate agreement.

Example Counterparty choice in settlement of a share-based payment

Company A grants share options to its employees that vest over a three-year period. These share options can only be settled by the issue of A's shares at the end of the vesting period. In a separate legal agreement consummated at the same time as the grant of the share options, A issues a put option to its employees that can (at the option of the employee) require A to settle the share options in cash based on the higher of a predetermined price (equal to the grant date fair value) or the fair value of the shares underlying the options. The put is only exercisable between the vesting date and the expiration of the options.

The two contracts (share options and written put) should be linked and the transaction accounted for as a cash alternative.

The substance of this arrangement is to issue an equity instrument to employees with a cash alternative. Therefore, the accounting should not be different depending on whether the transaction is consummated through one or more contracts. As a result, A should fair value the liability component and any residual should be assigned to the equity component. Since the remaining amount to be assigned to equity in this example would be nil the transaction is accounted for similar to a cash-settled share-based payment up to the date of exercise.

Measurement

For transactions with parties other than employees, the fair value of goods or services is measured directly. For such transactions, the equity component is measured as the difference between the fair value of the goods or services received and the fair value of the debt component, at the date when goods or services are received. This is the basic approach that is adopted for compound instruments that are accounted for under IAS.

For other transactions, including those with employees, the fair value of the compound financial instrument is measured at the measurement date, taking into account the terms and conditions on

which the rights to cash or equity instruments were granted. To do this, the debt component is measured first and then the equity component is measured. The fact that the counterparty must forfeit the right to receive cash to receive the equity instrument should be taken into account. The fair value of the compound financial instrument is the sum of the fair values of the two components.

Under IAS the carrying amount of the equity instruments is determined by deducting the fair value of the financial liability from the fair value of the compound financial instrument as a whole. This is straightforward when the fair value of the combined instrument is reliably known, for example where it is the proceeds of an issue for cash. However, IFRS explains that, where this is not the case, it will be necessary to estimate the fair value of the compound instrument itself. The IASB therefore concluded, as stated above, that the compound instrument should be measured first by valuing the liability component (i.e. the cash alternative) and then valuing the equity component and adding the two components together.

Entities will often structure share-based payment transactions in which the counterparty has the choice of settlement in such a way that the fair value of one settlement alternative is the same as the other. For example, the counterparty might have the choice of receiving share options or cash settled share appreciation rights. In such cases, the fair value of the equity component is zero, and hence the fair value of the compound financial instrument is the same as the fair value of the debt component.

IFRS 2 notes that, conversely, if the fair value of the settlement alternatives differ, the fair value of the equity component will usually be greater than zero. In this case, the fair value of the compound financial instrument will be greater than the fair value of the debt component.

IFRS explains that the fair value of the compound financial instrument will usually exceed both:

- the individual fair value of the cash alternative – because of the possibility that the shares or share options may be more valuable than the cash alternative; and
- that of the shares or options – because of the possibility that the cash alternative may be more valuable than the shares or options.

But, as explained above, in many practical situations the fair value of the settlement alternatives

will be the same and there will be no equity component.

Subsequent accounting

Once the debt and equity components have been separately identified and measured, the goods or services received in respect of each component are accounted for separately. For the debt component, the goods or services received, and a corresponding liability, are recognized in accordance with the requirements applying to cash-settled transactions. For the equity component, if any, the goods or services received are recognized as the counterparty supplies goods or renders services in accordance with the requirements for equity settled transactions

At the date of settlement, the liability is remeasured at its fair value. If equity instruments are issued in settlement rather than cash, the liability is transferred direct to equity as the consideration for the equity instruments issued.

If settlement is in cash rather than equity instruments, the payment made is applied to settle the liability in full. Any equity component previously recognized remains in equity. By electing to receive cash settlement, the counterparty forfeited the right to receive equity instruments. But this does not preclude a transfer from one component of equity to another.

The application of these requirements is illustrated by the following example which is taken from the IFRS Implementation Guidance Example. It illustrates the circumstances where the cash alternative is less favorable than the equity-settled alternative and so the equity component is not zero.

Example of Subsequent accounting where counter-party has choice of settlement

An entity grants to an employee the right to choose either 1,000 phantom shares (i.e. a right to

a cash payment equal to the value of 1,000 shares) or 1,200 shares. The grant is conditional upon the completion of three years' service. If the employee chooses the share alternative, the shares must be held for three years after vesting date.

At grant date, the entity's share price is Br. 50 per share. At the end of years 1, 2 and 3, the share price is Br. 52, Br. 55 and Br. 60 respectively. The entity does not expect to pay dividends in the next three years. After taking into account the effects of the post-vesting transfer restrictions, the entity estimates that the grant date fair value of the share alternative is Br. 48 per share.

At the end of year 3, the employee chooses:

Scenario 1: The cash alternative

Scenario 2: The equity alternative

APPLICATION OF REQUIREMENTS

The fair value of the equity alternative is Br. 57,600 (1,200 shares x Br. 48). The fair value of the cash alternative is Br. 50,000 (1,000 phantom shares x Br. 50). Therefore, the fair value of the equity component of the compound instrument is Br. 7,600 (Br. 57,600 – Br. 50,000). The entity recognizes the following amounts:

		Expense	**Equity**	**Liability**
Year		Br.	Br.	Br.
1	Liability component: (1,000 x Br.52 x 1/3)	17,333		17,333
	Equity component: (Br.7,600 x 1/3)	2,533	2,533	
2	Liability component: (1,000 x Br.55 x 2/3) – Br.17,333	19,333		19,333
	Equity component: (Br.7,600 x 1/3)	2,533	2,533	
3	Liability component: (1,000 x Br.60) – CU36,666	23,334		23,334
	Equity component: (Br.7,600 x 1/3)	2,534	2,534	
		Expense	**Equity**	**Liability**
End Year 3		Br.	Br.	Br.
Scenario 1: cash of Br. 60,000 paid				(60,000)
Scenario 1 totals		67,600	7,600	0
Scenario 2: 1,200 shares issued			60,000	(60,000)
Scenario 2 totals		67,600	67,600	0

Entity's choice

The terms of a share-based payment transaction may provide an entity with the choice as to whether to settle in cash or by issuing equity instruments. In this case, it is necessary to determine whether the entity has a present obligation to settle in cash and to account for the transaction accordingly. IFRS 2 states that the entity has a present obligation to settle in cash if:

- The choice of settlement in equity instruments has no commercial substance, for example because the entity is legally prohibited from issuing shares; or

- The entity has a past practice or stated policy of settling in cash; or

- The entity generally settles in cash whenever the counterparty asks for cash settlement.

When the entity has a present obligation to settle in cash, the transaction is accounted for as cash settled transaction if no such obligation exists, the transaction is accounted for in accordance with the requirements of the standard applying to equity-settled transactions. The application of these classification requirements is illustrated by the following example:

Example Classification of an employee share option plan in which the entity has the choice of settlement

Company A, a listed entity, grants its employees options to acquire ordinary shares in A. A's shares trade in an active market. The exercise of the options is conditional upon the achievement of certain performance conditions during the vesting period. In addition, the holders of the options have to be employed within the group headed by A or can be retired, if they retire at the normal retirement age.

Employees can exercise the options over a period of 5 years. Following the exercise of an option, the employee is required to sell the shares obtained immediately. Company A has first

right to purchase these shares at a price equal to the market price at the moment employees exercise the underlying options. Should the entity not purchase the shares, there are no constraints on how the employees dispose of the shares, or to whom. There is no enforcement mechanism by the entity

Company A has the legal ability to buy its own shares in the market, and has sufficient authorized capital to issue new shares to deliver the required number of shares to the employees upon exercise.

The granted share option scheme is a new arrangement, and there have been no other arrangements in the past where the entity has had a choice of cash or equity settlement. Hence, there is no historical fact pattern of A exercising its rights. The share option scheme has been approved by the shareholders without objection, and no indication was provided as to what course of action the entity would take when the exercise date is reached — whether the entity would seek to acquire the shares based on its pre-emptive right or choose not to do so.

Company A represents that it will act in its own interest every time it has the right to buy back shares, and that it does not believe any situation exists which would force it to buy back the shares given to the employees under the scheme.

According to the listing rules, employees cannot exercise their rights during a ‘closed period’. Therefore, employees will not be able to sell shares in a closed period.

When employees exercise the options granted by A, they are obliged to sell the shares on the date of exercise. Company A has first right to purchase these shares. In substance, this right to repurchase shares immediately gives A an option to settle the share-based payment transaction in cash.

According to IFRS requires an entity that has a choice of settlement to determine whether it has a present obligation to settle the share-based payment transaction in cash.

The entity has a present obligation to settle in cash if the choice of settlement in equity

instruments has no commercial substance (e.g. because the entity is legally prohibited from issuing shares), or the entity has a past practice or a stated policy of settling in cash, or generally settles in cash whenever the counterparty asks for cash settlement.

If an entity with a choice of settlement has no present obligation to settle the transaction in cash, of the IFRS states "the entity shall account for the transaction in accordance with the requirements applying to equity-settled share-based payment transactions.

The management of Company A considers all facts and circumstances to determine whether there are any factors that could create an obligation to deliver cash and concludes that there are no situations in which the entity would have a legal obligation, or has created a constructive obligation, to repurchase the shares and thereby deliver cash.

In particular:

• there is an active market in which the shares could be sold;
• from a legal perspective, A has sufficient authorized share capital in order to be able to issue new shares;

• Current shareholders raised no objection to the scheme in the general shareholders' meeting and the entity did not raise an expectation of particular action;
• no restrictions on trading in a closed period apply as exercise is prohibited in this period; and
• there is no stated policy or constructive obligation created by past practice.

Hence, this scheme should be accounted for as an equity-settled share-based payment.

On settlement:

• if the entity elects to settle in cash, the cash payment is accounted for as the repurchase of an equity interest. It is therefore treated as a deduction from equity except as described below; and
• if the entity elects to settle by issuing equity instruments, no further accounting is required except as noted below and except for a transfer from one component of equity to another component of equity, if necessary.

These requirements are not consistent with the requirements of IAS for other circumstances where the entity has a choice of settlement. IAS requires such arrangements to be classified wholly as a liability (if the contract is a derivative contract) or as a compound instrument (if the contract is a non-derivative contract). The IASB decided to retain this difference pending the outcome of its longer term project on the distinction between liabilities and equity.

If the entity elects for the settlement alternative with the higher fair value, as at the date of settlement, the entity should recognize an additional expense for the excess value given. That is:

- the difference between the cash paid and the fair value of the equity instruments that would have been issued; or
- the difference between the fair value of the equity instruments issued and the amount of cash that would otherwise have been paid.

Thus, there is an additional expense recognized when an entity elects to use the settlement alternative with the higher fair value. But this does not mean that the expense recognized will be the same as it would have been if the method of settlement assumed at the outset was the same as the actual method of settlement. For example, consider the case of share appreciation rights where the cash-settled and equity-settled alternatives have the same fair value because the cash payment is equal to the gain that would arise on exercise of the options. If these were assumed to be cash-settled from the outset, the cumulative expense recognized would be based on the actual cash payment made (i.e. intrinsic value) on exercise. If these were assumed to be equity-settled from the outset, the cumulative expense recognized would be based on fair value at grant date (which would usually be lower).

Now suppose that the entity concluded, at the outset, that there was no obligation to settle in cash but subsequently did so. The expense recognized would be based on fair value at grant date and would not be adjusted to the amount of the cash payment made. The IASB considered and rejected the argument that an additional expense should be recognized in these circumstances as described in IFRS.

Where the entity has the choice of settlement, it may therefore appear advantageous to

conclude that there is no obligation to settle in cash and to account for the arrangements as equity-settled. Where the entity has no past practice or stated policy of settling in cash, there is nothing in the Standard to prevent this. But an entity that tried to exploit this could do so only for a limited time because it would, in due course, establish a practice of settling in cash.

Changes to method of settlement

IFRS contains specific requirements for modifications to the terms and conditions on which equity instruments are granted. It also deals with circumstances where there is choice between cash settlement and equity settlement (see sections above). But it contains no specific requirements relating to the variation of terms to alter the method of settlement.

Addition of a cash alternative

An entity may decide, during the vesting period for an equity-settled transaction, to add an employee option to choose a cash alternative. From the date of such a modification, the transaction should be accounted for as a compound instrument as outlined at above. This approach is illustrated in the following example which is taken from the IFRS Implementation Guidance.

Example Grant of shares, with a cash alternative subsequently added

BACKGROUND

At the beginning of year 1, the entity grants 10,000 shares with a fair value of Br. 33 per share to a senior executive, conditional upon the completion of three years' service. By the end of year 2, the share price has dropped to Br. 25 per share. At that date, the entity adds a cash alternative to the grant, whereby the executive can choose whether to receive 10,000 shares or cash equal to the value of 10,000 shares on vesting date. The share price is Br. 22 on vesting date.

APPLICATION OF REQUIREMENTS

IFRS requires, irrespective of any modifications to the terms and conditions on which the equity instruments were granted, or a cancellation or settlement of that grant of

equity instruments, the entity to recognize, as a minimum, the services received measured at the grant date fair value of the equity instruments granted, unless those equity instruments do not vest because of failure to satisfy a vesting condition (other than a market condition) that was specified at grant date. Therefore, the entity recognizes the services received over the three-year period, based on the grant date fair value of the shares.

Furthermore, the addition of the cash alternative at the end of year 2 creates an obligation to settle in cash. In accordance with the requirements for cash-settled share-based payment transactions, the entity recognizes the liability to settle in cash at the modification date, based on the fair value of the shares at the modification date and the extent to which the specified services have been received. Furthermore, the entity remeasures the fair value of the liability at each reporting date and at the date of settlement, with any changes in fair value recognized in profit or loss for the period. Therefore, the entity recognizes the following amounts:

Year	**Calculation**	Expense Br.	Equity Br.	Liability Br.
1	Remuneration expense for year: (10,000 shares x Br. 33 x 1/3)	110,000	110,000	
2	Remuneration expense for year: (10,000 shares x Br. 33 x 2/3) – Br. 110,000	110,000	110,000	
	Reclassify equity to liabilities: (10,000 shares x Br. 25 x 2/3)		(166,667)	166,667
3	Remuneration expense for year: (10,000 shares x Br. 33 x 3/3 – Br. 220,000)	110,000	26,667*	83,333*
	Adjust liability to closing fair value: (Br. 166,667 + Br. 83,333) – (Br. 22 x 10,000) shares	(30,000)		(30,000)
	Total	**300,000**	**80,000**	**220,000**

* Allocated between liabilities and equity, to bring in the final third of the liability based on the fair value of the shares as at the date of the modification.

Example Change from cash-settled to equity-settled

On 1 January 20X1, Company A issued 100 share options to certain of its employees with an exercise price of Br. 15 per option. The options vest if the employee remains in A's employing after four years. The share options can only be cash-settled. A determined the fair value of the instruments to be Br. 5 per option at the date of grant.

As of 31 December 20X2, A determined the fair value of the cash-settled share-based payment to be CU6 and, therefore, has recorded a cumulative expense of Br. 300 [(Br. 6 x 100) x 2/4 years] as A expects all options to vest. On 1 January 20X3, A modified the options such that they can only be settled by delivery of A's equity instruments and, therefore, are classified as equity settled share-based payments.

At the date of modification, 1 January 20X3, A is required to eliminate the liability of Br. 300. The guidance in IFRS, which applies to modifications of equity-settled share-based payments that continue to be accounted for as equity-settled share-based payments after the modification, can be used by analogy

IFRS requires that, at a minimum, the grant-date fair value of the equity instruments granted is recognized as remuneration expense over the vesting period unless those instruments do not vest because of failure to satisfy a non-market condition. Any incremental fair value, as a result of the modification, is recognized over the remaining vesting period. Based on that principle, an entity recognizes cumulative remuneration expense at the amount that would have been recognized as of the date of the modification had the liability award been accounted for as equity from the date of grant unless the modification date fair value of the liability award exceeds the grant date fair value of the liability award, had it been accounted for as equity.

If the modification date fair value of the liability award exceeds the grant date fair value of the liability award, had it been accounted for as equity, the higher amount becomes the basis for recognizing cumulative remuneration expense of the modified award over the remaining vesting period. In that situation, the liability is reclassified as equity and unrecognized remuneration

expense is recognized over the remaining vesting period.

If the grant date fair value of the liability award, had it been accounted for as equity, exceeds the modification date fair value of the liability award, the higher amount becomes the basis for recognizing cumulative remuneration expense over the vesting period. In that situation, the liability is reclassified to equity. In addition, the excess of the cumulative remuneration expense that would have been recognized to date, had the liability been accounted for as equity, is immediately recognized as remuneration expense with a corresponding increase in equity. The unrecognized remuneration expense is recognized over the remaining vesting period.

2.6 Share-based Payment Disclosures

IFRS requires extensive disclosures under three main headings:

- Information that enables users of financial statements to understand the nature and extent of the share-based payment transactions that existed during the period.
- Information that allows users of financial statements to understand how the fair value of the goods or services received, or the fair value of the equity instruments which have been granted during the period, was determined.
- Information that allows users of financial statements to understand the effect of expenses, which have arisen from share-based payment transactions, on the entity's profit or loss in the period.

The standard is applicable to equity instruments granted after 7 November 2002 but not yet vested on the effective date of the standard, which is 1 January 2005. IFRS 2 applies to liabilities arising from cash-settled transactions that existed at 1 January 2005.

Example 1 A company issues fully paid shares to all 500 existing employees on 31 July 20X8. Shares issued to employees normally have vesting conditions attached to them and vest over a three-year period, at the end of which the employees have to be in the company's employment. However these shares have been given to the employees because of the performance of the company during the year. The shares have a market value of $2m on 31 July 20X8 and an

average fair value over the previous 12 months of $3m. It is anticipated that in three-year' time there will be 400 employees at the company. What amount would be expensed to profit or loss for the year ended 31 July 20X8?

Answer ($2m. The issue of fully paid shares is deemed to relate to past service ('performance of the company during the year ') and should be expensed to profit or loss at 31 July 20X8. Normal vesting conditions and vesting periods are not relevant to this scenario.

Example 2 A company grants 750 share options to each of its six directors on 1 May 20X7. The options vest on 30 April 20X9. The fair value of each option on 1 May 20X7 is $15 and $10 per share on 30 April 20X8. It is anticipated that all of the share options will vest on 30 April 20X9. What will be the accounting entry in the financial statements for the year ended 30 April 20X8?

Answer 750 x 6 (directors) x $15 / 2 years = $33,750. This will be expensed to profit and loss and shown as an increase in equity.

Example 3 A public limited company has granted 700 share appreciation rights (SARs) to each of its 400 employees on 1 January 20X6. The rights are due to vest on 31 December 20X8 with payment being made on 1 January 20X9. During 20X6, 50 employees leave, and it is anticipated that a further 50 employees will leave during the vesting period. Fair values of the SARs are as follows:

January 1,20X6	$15	December 31,20X6	$18
December 31,20X7	$20		

What will be recorded in the financial statements on 31 December 20X6 for the share appreciation rights?

Answer 700 x (400 – 50 – 50) x $18 x 1/3 = $1,260,000. This will be expensed to profit and loss and presented as a non-current liability at 31 December 20X6

CHAPTER THREE

3. ACCOUNTING FOR AGRICULTURE

Introduction

According to International Accounting Standard, 'Agriculture', is a small standard with a wide scope and a significant impact on those entities within its scope. It applies to most (but not all) entities that grow or rear biological assets for profit. The principle of the standard is that increases in value are recognized as the asset grows and not solely on harvest or sale.

The standard raises some challenges:

- Which entities are in its scope?
- What is the asset to be recognized and measured?
- How is the asset measured?
- How is agricultural activity disclosed in the entity's financial statements?

This practical guide seeks to answer some of the frequently asked questions by entities that are new to International Financial Reporting Standard.

Some definitions of International Accounting Standard are: -

Agricultural activity the management by an entity of the biological transformation of biological assets for sale, into agricultural produce or into additional biological assets.

Biological transformation comprises the processes of growth, degeneration, production and procreation that cause qualitative or quantitative changes in a biological asset.

Biological asset – a living animal or plant.

Agricultural produce – the harvested product of the entity's biological assets.

3.1 Basic Terms and Scope

Agricultural activities are distinguished by the fact that management facilitates and manages biological transformation and is capable of measuring the change in the quality and quantity of biological assets. Management of biological transformation normally takes the form of activity to enhance, or at least stabilize, the conditions necessary for the process of growth, degeneration,

production and procreation that cause qualitative or quantitative changes in a biological asset to take place. Examples of agricultural activity include:

• Raising livestock, fish or poultry
• Stud farms (for example, breeding horses or cattle)
• Forestry
• Cultivating vineyards, orchards or plantations
• Floriculture

Managing animal-related recreational activities – for example, game parks and zoos – is not agricultural activity, as there is no management of the transformation of the biological assets but simply control of the number of animals. The natural breeding of animals in zoos and game parks agricultural that takes place is not a managed activity and is incidental to the main activity of providing a recreational facility. A managed breeding programmed carried out to produce animals for sale would be considered agricultural activity.

The contract-grower entity needs to determine whether its exposure to risk is that of a receivable (secured credit risk) or that of a biological asset (physical inventory and fair value changes). Where the risks and rewards relating to ownership of the biological assets are with the contract growing entity, management should account for them as its biological assets. Harvesting biological assets from unmanaged sources, such as ocean fishing, is not agricultural activity. Managing the growth of fish for subsequent slaughter or sale is agricultural activity within the scope of International Accounting Standard

The development of organisms for research purposes does not qualify as agricultural activity, as those organisms are not being developed for sale, or for transformation into agricultural produce or additional biological assets. If the organisms are being developed for those purposes, the activity is agricultural activity in the scope of International Accounting Standard – for example, the development of cultures for use in dairy products. The growing of plants to be used in the production of drugs an activity within the scope of International Accounting Standard. If a pharmaceutical or biotechnology entity grows plants from which particular drugs are produced, that activity will fall within IAS's scope.

3.2 The Nature of Biological Assets

Biological transformation is a natural change in a biological asset. It includes growth of living animals or plants, reduction in output due to age or disease and the production of new biological assets through a managed reproductive program. Biological assets include the following.

- Sheep, pigs, beef cattle, poultry and fish.
- Dairy cows.
- Trees in a forest.
- Plants for harvest (for example, wheat and vegetables).
- Trees, plants and bushes from which agricultural produce is harvested (for example, fruit trees, vines and tea bushes).

The produce or harvest from a biological asset (for example, milk, tea leaves and lumber) is inventory. The harvested produce is transferred to inventory at fair value less costs to sell; it is thereafter accounted for in accordance with IAS, 'Inventories'. However, while the produce is still growing or still attached to the biological asset, its value forms part of the value of the biological asset.

Land owned by the entity and used for agricultural activity is subject to the recognition and measurement principles of IAS, 'Property, plant and equipment'. Land owned by a third party and rented to the entity for the purposes of agricultural activity is likely to be the third party's investment property and is accounted for in accordance with IAS, 'Investment Property'.

According to **the scope of IAS in an integrated business** consider the following examples.

Example – Cattle farm The cattle are biological assets while they are living. When they are slaughtered, biological transformation ceases and the carcasses meet the definition of agricultural produce. Hence, entity A should account for the live cattle in accordance with IAS and the carcasses as inventory in accordance with IAS.

Example – Vineyard the grapevines are biological assets that continually generate crops of grapes. When the entity harvests the grapes, their biological transformation ceases and they become agricultural produce. The grapevines continue to be living plants and should be recognized as biological assets. Assets such as wine that are subject to a lengthy maturation period are not biological assets. These processes are analogous to the conversion of raw materials to a finished product rather than biological transformation. Therefore, the entity should account for the grapevines in accordance with IAS and the harvested grapes and the production of wine, as inventory in accordance with IAS.

3.3 Recognition and Measurement of Biological Assets

IAS requires biological assets to be measured on initial recognition and at each balance sheet date at their fair value less costs to sell, except in limited circumstances. There are two occasions where the standard permits departure from current fair value: at the early stage of an asset's life; and when fair value cannot be measured reliably on initial recognition.

The first exemption is a practical expedient. The standard allows that cost may approximate fair value where little biological transformation has taken place since the initial cost was incurred (for example, for fruit tree seedlings planted immediately before the balance sheet date). The same applies when the impact of the biological transformation on price is not expected to be material (for example, for the initial growth in a 30-year pine plantation cycle).

The second exemption – that fair value cannot be reliably measured – is almost never relevant. The standard includes a presumption that fair value can be measured reliably for a biological asset. That presumption can be rebutted only on initial recognition for a biological asset for which market-determined prices or values are not available and for which alternative estimates of fair value are determined to be clearly unreliable.

In determining whether an estimate is 'clearly unreliable', a history of large variations in outcome of the biological transformation process is not relevant, as this should be factored into the measurement model. Similarly large fluctuations in the price of the final produce are not a justification for an estimate to be clearly unreliable. The fact that the asset has a very long production cycle and there is no forward market price is not an excuse not to measure the asset at fair value. Only when the asset is unique or of a very special nature may estimates be unreliable. The term 'clearly unreliable' is not used elsewhere in the IFRS literature, and based on the objective of the standard it is a high hurdle to clear.

In the event that the estimate of its fair value is deemed to be clearly unreliable, that biological asset is measured at its cost less any accumulated depreciation and any accumulated impairment losses [IAS 41 para 30]. Note that determining whether an asset is impaired requires an estimate of its value.

As the exemption is only available on initial recognition, to rebut the presumption an existing preparer must either have been gifted an asset that cannot be valued or be able to demonstrate that the price paid for the asset was not an arm's length market price. A first-time adopter can only use this exemption until such time as the asset has a market price or can be valued using a valuation technique. Once the biological asset has been fair valued, the cost model no longer applies.

The current definition of fair value in IAS is the amount for which the asset could be exchanged between knowledgeable, willing parties in an arm's length transaction. It represents a market price for the asset based on current expectations. IAS includes an unofficial hierarchy of valuation measures, similar to those found in IAS, 'Impairment of assets', and IAS, 'financial instruments: Recognition and measurement'.

The fair value hierarchy summarized as follows:

• Price for the asset in an active market.

• Recent transaction price for the asset if there is no active market.

• Market prices for similar assets, adjusted for the points of difference.

• Sector benchmarks.

• Present value of the future cash flows expected to be generated from the asset.

Many biological assets have relevant market-determined prices or values available, as biological produce in general are basic commodities that are traded actively. For example, there are usually market prices for calves and piglets, as there is an active market for these assets.

When market-determined prices or values are not available for a biological asset in its present condition, present value of expected net cash flows from the asset should be used. Consistent with the objective of estimating fair value, the cash flows should be based as far as possible on market data. For example, while there is a market for fully grown salmon, there is no market for a partly grown salmon. The fair value of a partly grown salmon is measured by projecting the cash inflows from the sale of the salmon fully grown, less the cash outflows needed to grow the salmon to its marketable weight and discounting them to a present day value.

The cash flow model should include all directly attributable cash inflows and outflows and only those cash flows. The inflows will be the price in the market of the harvested crop for each crop over the life of the asset; the outflows will be those incurred raising or growing the asset and getting it to market – for example, direct labor, feed, fertilizer and transport to market. The 'market' is where the asset will be sold. For some assets, this will be an actual market; for others, it may be the 'factory gate'.

If significant other assets are used to support the biological asset, the cash flow model should reflect the economics of this; otherwise the fair value will be overstated. For example, if an entity owns its land, the cash flows should include a notional cash outflow for 'rent' of the land to be comparable with the asset of an entity that rents its land from a third party. The fair value of a biological asset is independent of the land on which it grows or lives.

Contract prices are not necessarily relevant in determining fair value, because fair value reflects the current market in which a willing buyer and seller would enter into a transaction.

At the date a contract is signed between willing parties, the contract price would be the best estimate of the future market price and would therefore be a relevant price to use in a cash flow

model. At a later date, historical contract prices may bear no relevance to the current fair value of the biological asset itself. Therefore, the fair value of a biological asset or its agricultural produce is not influenced by the existence of a contract unless the contract prices represent current market prices. In some cases, a contract for the sale of a biological asset or agricultural produce may be an onerous contract, as defined in IAS, 'Provisions, contingent liabilities and contingent assets', and would be measured in accordance with that standard. The existence of an onerous contract does not affect the fair value of the biological asset.

Costs to sell are the incremental costs incurred in selling the asset. They include commissions paid to brokers and dealers, transfer taxes and duties and fees paid to regulatory agencies or commodity exchanges. Costs to sell do not include the cost of transporting the asset to market (as this is included in its fair value) or income taxes and finance costs.

3.4 Presentation and Disclosure Issues

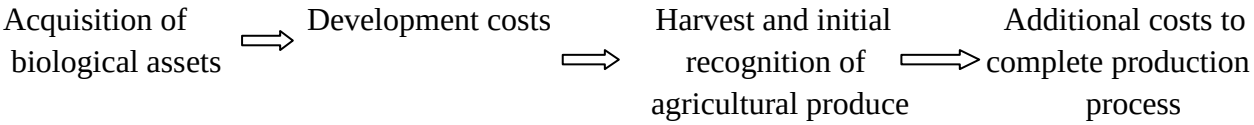
The sale of agricultural produce is clearly revenue as defined by IAS, 'Revenue'. Revenue comprises the fair value of the consideration received or receivable only for the sale of agricultural produce and/or biological assets. It is stated net of sales taxes, rebates and discounts. IAS specifically scopes out revenue arising from changes in fair value and initial gains and losses for agricultural assets and produce. Fair value gains are income in accordance with the Framework; fair value losses are expenses. Fair value gains may be shown as part of total income but separately from revenue.

Income under IAS 41 can be classified into:

- Initial gain or loss on biological assets.
- Changes in fair value less costs to sell of biological assets.
- Initial gain or loss on agricultural produce.

Initial losses on biological assets typically arise when a biological asset is purchased. The cost of the biological asset is often higher than the fair value less costs to sell, as the latter represents an exit price, and transaction expenses therefore create a loss. Initial gains on biological assets arise when new biological assets are generated – for example, when a calf or a piglet is born.

Changes in fair value less costs to sell of biological assets represent the difference in value from period to period, normally on an aggregated basis. It is therefore sometimes difficult to distinguish from the initial gain due to procreation. The value typically increases due to growth, procreation and higher prices, but may decrease due to degeneration, sickness and lower prices. Initial gains or losses on agricultural produce represents the difference between the change in carrying value of the biological assets due to harvest and the fair value less costs to sell of the harvested agricultural produce. It reflects the last stage of the value creation of the biological process, and the harvested produce is transferred to inventory. There may be further costs involved in preparing the inventory for market. The different stages in the accounting life of a biological asset are shown in the simple diagram below.



IAS requires all gains and losses arising under the standard to be disclosed on an aggregated basis. It should be noted that the standard does not require or encourage disaggregating the gain or loss. Further, disaggregating gains and losses arising from initial recognition and changes during the year may be impracticable.

The disclosure may be given on the face of the income statement or in the notes, as there is no specific requirement in IAS on where to show it. In practice, most entities show this on a separate line in the income statement. IAS, 'Presentation of financial statements', requires revenue to be shown in the income statement; disclosure only in the notes is not acceptable.

Based on the examples following IAS and current practice, the presentation of change in fair value should be near the top of the income statement. As the change in fair value may be both a positive as well as a negative amount, it is most appropriate to present the change in fair value after revenues and other income, but before expenses. The presentation should take into consideration the unique characteristics of the production of the entity.

Subsequent expenses relating to agricultural activity be presented costs may include feeding, veterinary services, planting, weeding, irrigation, fertilizer, and harvesting and slaughtering

costs. IAS does not prescribe the treatment of such costs. Prior to adoption of IAS, many agricultural businesses had a policy of capitalizing some of these costs, particularly those relating to the development of immature plants or livestock up to the point they were productive. As IAS does not prescribe the treatment of subsequent expenditure, such a treatment would still be permissible under IAS 41. However, difficulties may be encountered in defining what should be capitalized and what should be expensed; many entities now adopt a policy of treating all such expenditure as a 'cost of production'. This is also permissible. However, the measurement of the aggregate gain or loss arising during the current period on initial recognition of biological assets and agricultural produce and from the change in fair value less costs to sell of biological assets, which has to be disclosed in accordance with IAS, will be directly affected by whether any part of these costs has been capitalized, so the accounting policy for the treatment of such costs should be disclosed.

IAS exclude biological assets from their scope, but they can be used by analogy if the entity adopts the policy of capitalizing such costs. Therefore, those costs related to the development of biological assets are capitalized by using the criteria of those standards and adjusted periodically by the re-measurement of the biological assets at its fair value. Management should use judgment to determine which costs would be eligible for capitalization (that is, labor costs of those employees directly involved with the management of biological assets could be capitalized, but labor costs related to selling staff would not).

Agricultural produce is measured at fair value less cost to sell on initial recognition, which becomes cost of the agricultural produce. How should the cost of the agricultural produce be presented when the produce is sold? There is no guidance on this in the standards. Best practice is to present the cost of the produce as a cost of goods sold, thereby separating the production phase from the selling phase, as IAS does not permit offset or showing a net position. The following example is practical guide illustrates this presentation.

The standard requires the entity to show a roll-forward of the carrying value of biological assets, either in total or per group of biological assets if this gives more relevant information.
Information to be given includes the following:
(a) the gain or loss arising from changes in fair value less costs to sell;

(b) increases due to purchases;

(c) decreases attributable to sales or reclassification to held for sale;

(d) decreases due to harvest;

(e) increases resulting from business combinations;

(f) net exchange differences; and

(g) other changes.

Note that changes due to procreation that results in new assets such as calves, lamb and piglets fall under point (g) unless an entity labels them separately, which is preferable.

Example 1 – Beef cattle farm no slaughtering activity

The following assumptions apply:

- The company was created as at 31 December 2008; at that time, 100 immature calves and 50 mature stock were acquired.
- Cattle become mature after one year.
- During the period under analysis, all the movements and transactions took place at 31 December of each year.
- Transportation costs are given per unit (variable cost). In practice, it is likely to be a fixed cost.

General information about the fair value for both mature and immature cattle as well as costs to sell is as follows:

	(OBS) 2008	**2009**	**2010**	**2011**
Fair value per unit (immature)	100.00	105.00	110.00	116.00
Fair value per unit (mature)	150.00	153.00	156.00	159.00
Cost to sell:				
– Auctioneer's fee (5%)	5.00	5.25	5.50	5.80
– Transportation (total cost to be paid for any transaction)	0.30	0.32	0.34	0.36

Measurement

Biological assets are measured on initial recognition and at each reporting date at fair value less cost to sell (FVLCTS). For Entity A, it was assumed that the cost to sell would include the

auctioneer's fee and the transportation costs of the fair value (that is, obtained in an active market). At 31 December 2008, considering Entity A has a total of 100 immature calves (see table of the movements of immature cattle below), the fair value less cost to sell of the biological asset was calculated as follows:

FVCTS = 100 x (100–5.00–0.30) = 9,470.00

For the analyzed period, the movements and fair values of immature cattle are as follows:

	(OBS) 2008	**2009**	**2010**	**2011**
Immature cattle				
Opening balance –		100.00	115.00	115.00
Acquisitions	100.00	105.00	105.00	115.00
New born –		10.00	10.00	20.00
Transfer to mature –		100.00	115.00	115.00
Sales	–	–	–	–
Closing balance	100.00	115.00	115.00	135.00
FVLCTS (total)	**9,470.00**	**11,434.45**	**11,978.40**	**14,828.40**
FVLCTS (per unit)	**94.70**	**99.43**	**104.16**	**109.84**

During the same period, the movements and fair values of the mature cattle are as follows:

	(OBS) 2008	**2009**	**2010**	**2011**
Mature cattle				
Opening balance	–	50.00	100.00	115.00
Acquisitions	50.00	–	–	–
Transfer from immature	–	100.00	115.00	115.00
Sales	–	50.00	100.00	115.00
Closing balance	50.00	100.00	115.00	115.00
FVLCTS (total)	**7,235.00**	**14,743.00**	**17,268.40**	**17,576.60**
FVLCTS (per unit)	**144.70**	**147.43**	**150.16**	**152.84**

Changes in fair values

Changes in fair value may be due to both physical changes and price changes in the market. A reconciliation of changes in the carrying amount of biological assets between the beginning and the end of the period is required under IAS. Companies are encouraged to present separately in the reconciliation the gains and losses due to physical changes and price changes. For Entity A, the reconciliation presents separately the changes due to new acquisitions, physical changes, price changes, new born cattle and sales. Separate reconciliations of changes in fair value for both mature and immature cattle are presented below. A consolidated reconciliation is also acceptable.

For immature cattle:

	(OBS) 2008	2009	2010	2011
Changes in fair value (immature cattle)				
At the beginning of the year	–	9,470.00	11,434.45	11,978.40
Due to acquisitions	9,470.00	10,440.15	10,936.80	12,631.60
Due to price changes	–	473.00	543.95	653.20
Due to new born cattle	–	994.30	1,041.60	2,196.80
Due to physical changes (transferred to mature)	–	(9,943.00)	(11,978.40)	(12,631.60)
Due to sales	–	–	–	–
Total changes in fair value	**9,470.00**	**1,964.45**	**543.95**	**2,850.00**
At the end of the year	**9,470.00**	**11,434.45**	**11,978.40**	**14,828.40**

For mature cattle:

	(OBS) 2008	2009	2010	2011
Changes in fair value (mature cattle)				
At the beginning of the year	–	7,235.00	14,743.00	17,268.40
Due to acquisitions	7,235.00	–	–	–
Due to price changes	–	136.50	273.00	308.20
Due to physical changes (transferred from immature)	–	14,743.00	17,268.40	17,576.60
Due to sales	–	(7,371.50)	(15,016.00)	(17,576.60)
Total changes in fair value	**7,235.00**	**7,508.00**	**2,525.40**	**308.20**
At the end of the year	**7,235.00**	**14,743.00**	**17,268.40**	**17,576.60**

In this reconciliation, the fair values of biological assets are trued-up on the date of sale or transfer. A simplified approach would be not truing-up the fair values and using the figures of the last reporting period as the basis for recording disposals and transfers to other classes of biological assets or inventories. This approach is also acceptable. Companies are also encouraged

to present a reconciliation of non-financial measures or estimates of the physical quantity. The table above with the movements in the number of calves is an example of this disclosure.

Classification and presentation

The accounting would be:

	2008	2009	2010	2011
Opening balance sheet (at 31 December 2008)				
Dr. Biological assets (immature)	9,470.00	–	–	–
Dr. Biological assets (mature)	7,235.00	–	–	–
Dr. FV loss on initial recognition of biological assets	1,590.00	–	–	–
Cr. Cash (cattle and inventories acquired; acquisition costs)	18,295.00	–	–	–
Newborn calves				
Dr. Biological assets (mature)	–	994.30	1,041.60	2,196.80
Cr. FV gain on initial recognition of biological assets	–	994.30	1,041.60	2,196.80
New calves acquired				
Dr. Biological assets (immature)	–	10,440.15	10,936.80	12,631.60
Dr. FV loss on initial recognition of biological assets	–	1,169.70	1,226.40	1,416.80
Cr. Cash (cattle acquired plus transportation and fees)	–	11,609.85	12,163.20	14,048.40
Calves sold				
Dr. Cash (proceeds from the sale less selling expenses)	–	7,371.50	15,016.00	17,576.60
Dr. Selling expenses	–	278.50	584.00	708.40
Cr. Revenue	–	7,650.00	15,600.00	18,285.00
Remeasurement of biological assets				
Dr. Biological assets (immature)	–	1,964.45	543.95	2,850.00
Dr. Biological assets (mature)	–	278.50	584.00	708.40
Cr. FV gains on remeasurement of biological assets	–	9,472.45	3,069.35	3,158.20

As a consequence, the income statements would be:

	2008	2009	2010	2011
Revenue	–	7,650.00	15,600.00	18,285.00
FV gains/(losses) on initial recognition of biological assets	(1,590.00)	(175.40)	(184.80)	780.00
FV gains/(losses) on remeasurement of biological assets	–	9,472.45	3,069.35	3,158.20
Selling expenses	–	(278.50)	(584.00)	(708.40)
Operating profit/(loss)	(1,590.00)	16,668.55	17,900.55	21,514.80

In this example, the fair value gains and losses are presented separately with the purpose of giving a more comprehensive understanding of the changes in fair values due to both initial recognition and remeasurement of biological assets. IAS allows a simplified approach whereby all the changes in fair value can be presented on an aggregated basis. This example can be expanded to look at a cattle farm that matures and slaughters the cattle to sell the carcasses.

Example 2 – Beef cattle farm with slaughtering activity

The following assumptions apply:

• General assumptions are the same as in Example 1.

• The movements of immature cattle are the same as described in Example 1.

The movements of mature cattle would be as follows (movements of immature cattle are the same as described in Example 1):

	(OBS) 2008	2009	2010	2011
Opening balance	–	50.00	100.00	115.00
Acquisitions	50.00	–	–	–
Transfer from immature	–	100.00	115.00	115.00
Sales	–	20.00	80.00	90.00
Slaughter	–	30.00	20.00	25.00
Closing balance	**50.00**	**100.00**	**115.00**	**115.00**

Measurement

reconciling the changes in fair values may be a complex task due to the range of subcategories within the main category of each biological asset (for example, mature cattle, immature cattle). A practical approach is to calculate the new fair value of the gross herd and then deduct the fair values of cattle disposed and slaughtered.

	(OBS)			
	2008	**2009**	**2010**	**2011**
Fair value less cost to sell	**–**	**50.00**	**100.00**	**115.00**
FVLCTS of gross herd	7,235.00	22,114.50	32,284.40	35,153.20
FVLCTS of sold cattle	–	2,948.60	12,012.80	13,755.60
FVLCTS of slaughtered cattle	–	4,422.90	3,003.20	3,821.00
FVLCTS of remaining biological asset	**7,235.00**	**14,743.00**	**17,268.40**	**17,576.60**
FVLCTS (per unit)	**144.70**	**147.43**	**150.16**	**152.84**

The reduction in the biological asset due to sale and slaughtering are calculated based on the proportion of cattle disposed.

Changes in fair values

Changes in fair values of immature cattle are the same as in Example 1. Changes in fair values of mature cattle for Example 2 will have an additional line of changes due to slaughtering. The total movements are the same for both Examples 1 and 2, as the total amount of cattle sold in the first equals the sum of total cattle sold and slaughtered in the latter.

	(OBS) 2008	2009	2010	2011
Changes in fair value (mature cattle)				
At the beginning of the year	–	7,235.00	14,743.00	17,268.40
Due to acquisitions	7,235.00	–	–	–
Due to price changes	–	136.50	273.00	308.20
Due to physical changes (transferred to mature)	–	14,743.00	17,268.40	17,576.60
Due to sales	–	(2,948.60)	(12,012.80)	(12,631.60)
Due to slaughtering (transferred to inventories)	–	(4,422.90)	(3,003.20)	(3,821.00)
Total changes in fair value	**7,235.00**	**7,508.00**	**2,525.40**	**308.20**
At the end of the year	**7,235.00**	**14,743.00**	**12,016.82**	**17,576.60**

Slaughtering activity

Entity A also has slaughtering activity. The cattle ceases to be a biological asset from the point it is slaughtered, and becomes agricultural produce. IAS scope encompasses agricultural produce up to the point of harvest. IAS states that agricultural produce is measured at FVLCTS at the point of harvest and is subsequently accounted in accordance with IAS 2, 'Inventories'. Information about the carcasses is as follows:

	(OBS) 2008	2009	2010	2011
Fair value per unit	180.00	189.00	198.00	208.00
Cost to sell:				
– Transportation (total cost to be paid for any transaction)	0.50	0.53	0.56	0.59
Cost to slaughter (2%)	4.00	4.20	4.42	4.64

In this example, all the carcasses are immediately sold.

Classification and presentation the accounting entries will be:

	2008	2009	2010	2011
Opening balance sheet (at 31 December 2008)				
Dr. Biological assets (immature)	9,470.00	–	–	–
Dr. Biological assets (mature)	7,235.00	–	–	–
Dr. FV loss on initial recognition of biological assets	1,590.00	–	–	–
Cr. Cash (cattle acquired plus transportation and fees)	18,295.00	–	–	–
Newborn calves				
Dr. Biological assets (mature)		994.30	1,041.60	2,196.80
Cr. FV gain on initial recognition of biological assets	–	994.30	1,041.60	2,196.80
New calves aquired				
Dr. Biological assets (immature)	–	10,440.15	10,936.80	12,631.60
Dr. FV loss on initial recognition of biological assets	–	1,169.70	1,226.40	1,416.80
Cr. Cash (cattle acquired plus transportation and fees)	–	11,609.85	12,163.20	14,048.40
Calves sold				
Dr. Cash (proceeds from the sale less selling expenses)	–	2,948.60	12,012.80	13,755.60
Dr. Selling expenses	–	111.40	467.20	554.40
Cr. Revenue	–	3,060.00	12,480.00	14,310.00
Cattle slaughtered				
Dr. Inventories	–	5,654.10	3,948.80	5,185.25
Cr. FV gain on initial recognition of inventories	–	1,105.20	857.20	1,248.25
Cr. Biological assets (mature)	–	4,422.90	3,003.20	3,821.00
Cr. Cash (cost of slaughtering cattle)	–	126.00	88.40	116.00
Carcasses sold				
Dr. Cash (proceeds from the sale less selling expenses)	–	5,654.10	3,948.80	5,185.25
Dr. Selling expenses	–	15.90	11.20	14.75
Cr. Revenue	–	5,670.00	3,960.00	5,200.00
Dr. Cost of production	–	5,654.10	3,948.80	5,185.25
Cr. Inventories	–	5,654.10	3,948.80	5,185.25
Re-measurement of biological assets				
Dr. Biological assets (immature)	–	1,964.45	543.95	2,850.00
Dr. Biological assets (mature)	–	7,508.00	2,525.40	308.20
Cr. FV gains on remeasurement of biological assets	–	9,472.45	3,069.35	3,158.20

As a consequence, the income statements would be:

	2008	2009	2010	2011
Revenue – sales of cattle	–	3,060.00	12,480.00	14,310.00
Revenue – sales of carcasses	–	5,670.00	3,960.00	5,200.00
FV gains/(losses) on initial recognition of biological assets	(1,590.00)	(175.40)	(184.80)	780.00
FV gains/(losses) on initial recognition of inventories	–	1,105.20	857.20	1,248.25
FV gains/(losses) on remeasurement of biological assets	–	9,472.45	3,069.35	3,158.20
Cr. FV gain on initial recognition of biological assets	–	994.30	1,041.60	2,196.80
Cost of production	–	(5,654.10)	(3,948.80)	(5,185.25)
Selling expenses	–	(127.30)	(478.40)	(569.15)
Operating profit/(loss)	**(1,590.00)**	**13,350.85**	**15,754.55**	**18,942.05**

CHAPTER FOUR

4. INSURANCE CONTRACTS

INTRODUCTION

Insurers are subject to the requirements of other applicable standards for products (or components of products) that are not insurance contracts. For example, according to International financial Report Standard **(**IFRS) Revenue from Contracts with Customers applies to fees and related costs on investment management contracts. An entity generally applies IFRS to contracts that meet the definition of an insurance contract, as follows:

– insurance or reinsurance contracts that it issues; and

– reinsurance contracts that it holds.

Insurance contracts – Definition

An insurance contract is "a contract under which one party – the issuer – accepts 'significant insurance risk' from another party – the policyholder." If a "specified uncertain future event – the insured event – adversely affects the policyholder", then the policyholder has a right to obtain compensation from the issuer under the contract.

This definition raises several further questions, which are discussed in this section.

– What form can an insurance arrangement take?

– What is 'insurance risk'?

– When is insurance risk 'significant'?

– What is an 'uncertain future event'?

– What is an 'adverse effect' on the policyholder?

– What happens when the level of insurance risk changes?

– When do reinsurance contracts meet the definition?

What form can an insurance arrangement take?

The relationship between an insurer and the policyholder is established by a contract. A 'contract' is an agreement between two or more parties that creates enforceable rights and obligations. Enforceability is a matter of law. Contracts can be written, oral or implied by the entity's customary business practices.
Contracts that have the legal form of insurance but pass all significant insurance risk back to the policyholder are not insurance contracts. For example, some financial reinsurance contracts pass all significant insurance risk back to the accident by adjusting payments made by the accident as a direct result of insured losses. Some group contracts also have similar features. These contracts are normally financial instruments or service arrangements and are accounted for under IFRS, as applicable.

Insurance contracts that are issued by an entity to another entity in its group are insurance contracts in the individual or separate financial statements of the issuing entity. However, in the group's consolidated financial statements there is no insurance contract.
Mutual entities generally accept significant insurance risk from individual policyholders and then pool these risks. Although policyholders of contracts issued by mutual entities bear the pooled risks of the contracts in their role as owners, the mutual entity is considered to be a separate entity that has accepted insurance risk.

A set or series of insurance contracts may have the same or related counterparties and achieve or be designed to achieve, an overall commercial effect. In this situation, it might be necessary to treat the set or series as a whole in order to report the substance of the contracts. This could be the case, for example, if one contract completely negates the rights and obligations arising from another contract entered into at the same time and with the same counterparty.

What is insurance risk?

'Insurance risk' is a risk, other than financial risk, that is transferred from the policyholder to the issuer of a contract. The issuer accepts a risk from the policyholder that the policyholder was already exposed to. The following table includes examples of insurance risk and financial risk.

Insurance risk	Financial risk
Risks such as: – death or survival – injury – illness – disability – loss of property due to damage or theft – failure of a debtor to make a payment when it is due – a possible change in a non-financial variable that is specific to a party to the contract	The risk of a possible future change in one or more of: – interest rates – financial instrument prices – commodity prices – currency exchange rates – indices of prices or rates – credit ratings or credit indices – any other variable, except for a non-financial variable that is specific to a party to the contract

A contract is not an insurance contract if it exposes the issuer only to financial risk but not to significant insurance risk. However, contracts that expose the issuer to both financial risk and significant insurance risk are insurance contracts. For example,. a life insurance contract with a guaranteed minimum rate of return (financial risk) and a promised death benefit that may significantly exceed the policyholder's account balance (insurance risk) is an insurance contract

When is insurance risk 'significant'?

Insurance risk is significant only if there is a scenario that has commercial substance in which, on a present value basis, there is a possibility that an issuer could:

– suffer a loss caused by the insured event; and

– pay significant additional amounts beyond what would be paid if the insured event had not occurred.

To have commercial substance, a scenario has to have a discernible effect on the economics of the transaction. For example, life insurance contracts in which the amount paid on death is higher than on surrender or maturity can meet the definition of an insurance contract, unless the amount

contingent on death is insignificant in all scenarios. The significance of insurance risk is assessed on a contract-by-contract basis. As a result, even if there is a minimal probability of significant losses for a portfolio or group of contracts, insurance risk can be significant for an individual contract. n addition, insurance risk can be significant even if the insured event is extremely unlikely to occur, or if the expected probability-weighted present value of the contingent cash flows is a small proportion of the expected probability-weighted present value of all of the remaining contractual cash flows.

When determining whether significant additional amounts will be paid in any scenario, an entity needs to consider the impact of the time value of money. If a contract requires an entity to make payments earlier than expected on the occurrence of an insured event and the cash value of those payments is not adjusted to reflect the time value of money, then there may be scenarios in which additional amounts are payable on a present value basis. For similar reasons, a contract that delays timely reimbursement to the policyholder can eliminate significant insurance risk, because the delayed payments may have a lower present value.

Fact pattern

Entity X issues a whole-life insurance contract under which it will provide a fixed death benefit when the policyholder dies, with no expiry date for the cover.

Analysis

Although it is certain that the policyholder will die, the date of death is uncertain. If an individual policyholder dies earlier than expected, then X has to make a payment earlier than was expected. Significant insurance risk could arise because the payment of the fixed death benefit is not adjusted for the time value of money.

What is an 'uncertain future event'?

Transfer of uncertainty (or risk) is the essence of an insurance contract. Therefore, for a contract to be an insurance contract, uncertainty is required at the contract's inception over at least one of the following:

– the probability that an insured event will occur;

– when it will occur; or

– how much the insurer will need to pay if it occurs.

Some insurance contracts cover events that have already occurred but for which the ultimate pay-out is still uncertain – e.g. insurance contracts that provide coverage against adverse development of existing claims. In these cases, the insured event is the determination of the ultimate cost of the claim.

What is an 'adverse effect' on the policyholder?

The definition of an insurance contract requires an adverse effect on the policyholder as a precondition for compensation. 'Lapse risk' or 'persistency risk' is the risk that the policyholder will cancel the contract at a time other than when the issuer expected when pricing the contract. This risk is not considered an insurance risk because the payment to the policyholder is not contingent on an uncertain future event that adversely affects the policyholder.

The risk of unexpected increases in the administrative costs associated with servicing a contract is known as 'expense risk'. This risk does not include unexpected costs associated with the insured event and is not an insurance risk, because an unexpected change in these expenses does not adversely affect the policyholder. However, if the issuer of a contract:

– is exposed to lapse, persistency or expense risk; and

– mitigates those risks by using a second contract to transfer all or part of those risks to another entity, then the second contract exposes the other entity to insurance risk.

Therefore, the second contract can meet the definition of an insurance contract from the perspective of the other entity. However, from the perspective of the entity that used this contract to transfer the risk to the other insurer, this second contract is a contract of direct insurance that it holds (the entity is a policyholder and the contract is not a reinsurance contract held) and therefore the entity does not apply IFRS.

What happens when the level of insurance risk changes?

Some contracts do not transfer any insurance risk to the issuer at inception, but do transfer it later. These contracts are not considered to be an insurance contract until the risk transfer occurs. For example, a contract may provide a specified investment return and also specify that

the policyholder can elect to receive a life-contingent annuity at then-current annuity rates determined by the entity when the annuity option is exercised. This will not be an insurance contract until the election is made, because it does not transfer insurance risk until that point. For a similar contract to be an insurance contract at the outset, the annuity rate or the determination basis needs to be specified at inception of the contract (unless the insurance risk is insignificant). A contract that meets the definition of an insurance contract remains an insurance contract until all rights and obligations expire.

When do reinsurance contracts meet the definition?

Reinsurance contracts are also insurance contracts that need to meet the definition of an insurance contract. However, even if a reinsurance contract does not expose the reinsurer to the possibility of a significant loss, it is still deemed to transfer significant insurance risk if it transfers substantially all of the insurance risk relating to the reinsured portions of the underlying insurance contracts to the reinsurer

4.1 Insurance Contract Aggregation

According to IFRS the purpose of aggregation, deals purely with insurance contracts and investment contracts with Discretionary Participating Features (DPF). In most instances, it is likely to be impractical for an entity to measure all insurance contracts at individual contract level.

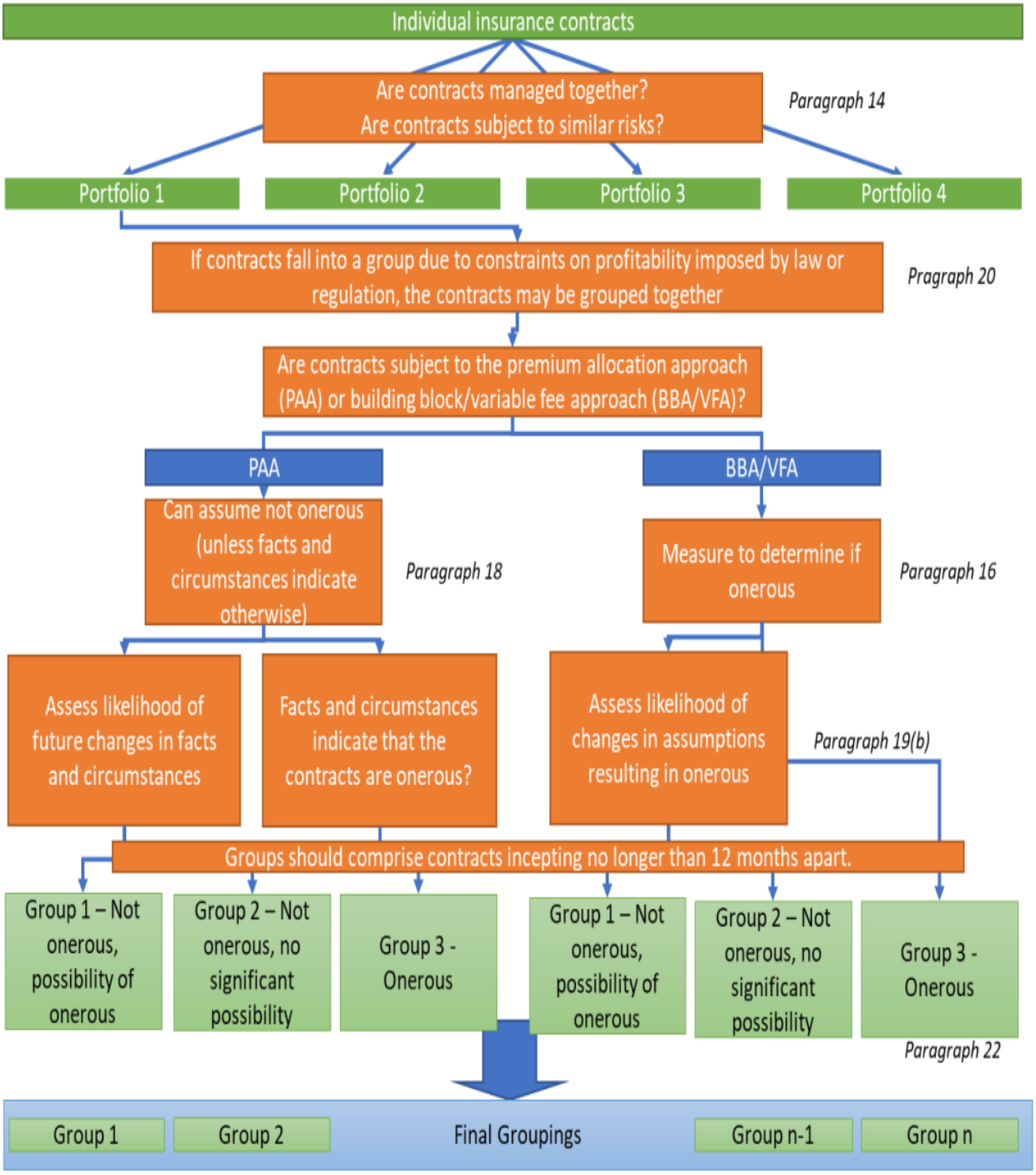
Consequently, all insurance contracts in the scope of IFRS may be aggregated into portfolios of insurance contracts (“portfolios”) and groups of insurance contracts (“groups”) within portfolios on initial recognition and not reassessed subsequently. In doing so, the IASB intends to limit the obscuring of information that would occur by offsetting onerous contracts in one group with profitable or potentially onerous contracts in another and to report the profits in appropriate reporting periods.

In determining the level of aggregation, an entity identifies portfolios. Each portfolio is divided into groups, which distinguish onerous and profitability, and the entity aggregates individual contracts into these groupings. An entity cannot include contracts issued more than one year apart in the same group.

The level of aggregation discussed in this chapter refers to aggregation for the purpose of measurement. Disclosures may require a different level of aggregation. The group as defined by IFRS is the minimum level of aggregation required. Lower levels of aggregation are permissible so long as the requirements of IFRS are met.

A summary of the levels of aggregation follows in the following Figure.

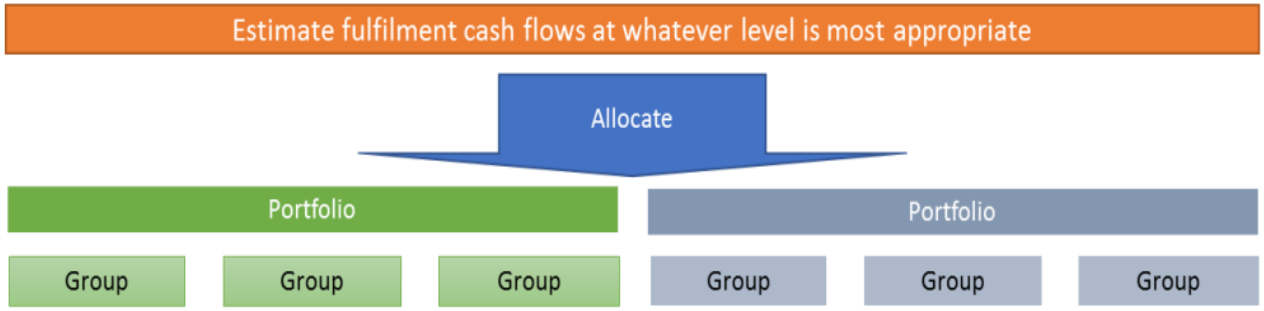
Figure 5.1: Level of Aggregation



When measuring groups, an entity may estimate the expected present value of future cash flows, discount rates, and the risk adjustment for non-financial risk at a higher (or lower) level of aggregation than the group, provided the entity is able to include the appropriate fulfillment cash

flows in the measurement of the group by allocating such estimates to groups (paragraph 24). This is depicted in Figure 5.2.

Figure 5.2: Allocation of Fulfilment Cash Flows



The level of aggregation determines the level at which the recognition and measurement requirements of IFRS are applied. Measurement of the Contractual Service Margin ("CSM") and earning patterns under the Premium Allocation Approach ("PAA") are generated at group level, and, therefore, the level of aggregation affects profit recognition patterns for the entity. Groups will need to be tracked and measured throughout the coverage period of the contracts 'Subsequent measurement'). Grouping ensures that there is systematic and consistent treatment of cross-subsidies between insurance contract reporting. For many entities, the grouping exercise could have significant practical and operational issues in respect of the entity's administration, valuation, and accounting systems.

4.2 Initial Recognition of Insurance Contracts

An entity recognizes a group of insurance contracts that it issues from the earliest of:

– the beginning of the coverage period of the group of contracts;
– the date when the first payment from a policyholder in the group becomes due; and
– for a group of onerous contracts, when the group becomes onerous, if facts and circumstances indicate that there is such a group.

If there is no due date specified in the contract, then it is considered to be the date when the first payment is received from the policyholder. A group of contracts initially recognized in a

reporting period only includes contracts that individually meet one of these three recognition criteria by the

reporting date. New contracts are added to the group in subsequent reporting periods in which any new contracts are recognized.

Example 3 – Recognition of an insurance contract

Fact pattern

– Entity X is bound by the terms of an insurance contract at 1 June 2023.

– The coverage period of the insurance contract starts on 1 January 2024, which is also the premium due date.

– This example assumes that the group comprises only this contract.

Analysis

On 1 June 2023 and at each reporting date between 1 June 2023 and 31 December 2023 – i.e. the pre-coverage period – X assesses whether any facts or circumstances indicate that the group is onerous. If it is, then X recognizes the group on the date when the group becomes onerous. If it is not, then X recognizes the group on 1 January 2024.

Why the recognition date is important

The date on which an entity recognizes a group of insurance contracts is particularly important for the following reasons.

– **Determining the Contractual Service Margin (CSM):** On initial recognition, the entity measures the fulfillment cash flows arising from a group of insurance contracts and determines the CSM, which is subsequently recognized in profit or loss over the coverage period.

– **Determining the discount rate on initial recognition:** This rate is used throughout the general measurement model and could also be applicable for the Premium Allocation Approach (PAA). For contracts without direct participation features measured applying the general measurement model, this discount rate is used to:

- accrete the interest on the CSM;
- measure the changes in fulfillment cash flows that adjust the CSM; and
- depending on the circumstances, present the insurance finance income or expense recognized in profit or loss.

– The determination of the CSM on initial recognition and the discount rate on initial recognition are affected by the level of aggregation of contracts to form a group.

4.3 Initial Measurement of Insurance Contracts

The liability (or asset) recognized for a group of insurance contracts is measured, on initial recognition and subsequently, as the sum of:

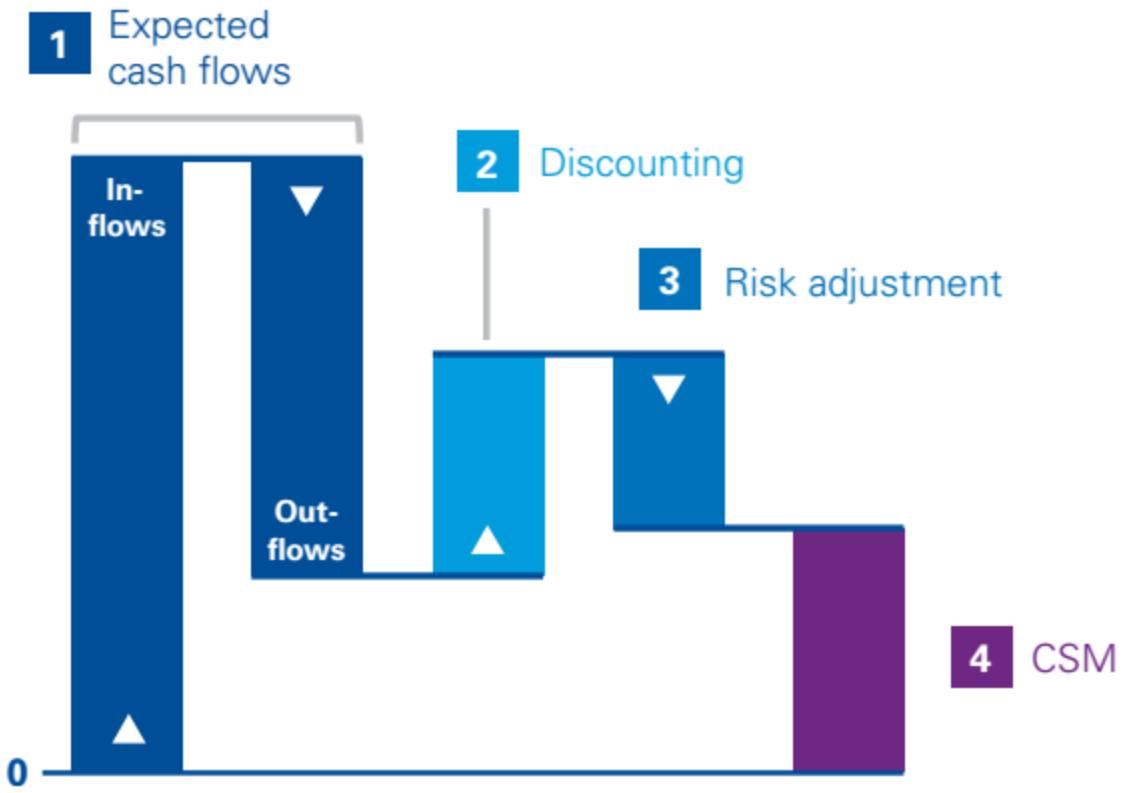
– the fulfillment cash flows, which are a risk-adjusted, explicit, unbiased and probability-weighted estimate of the present value of expected cash flows that will arise as the entity fulfils the contracts; and

– the CSM, which is the amount that represents the unearned profit that the entity will recognize in profit or loss as services are provided. The fulfillment cash flows consist of the following components.

– Estimates of **expected cash flows** that will arise as the entity fulfils the contracts.

– An adjustment to reflect the **time value of money** – i.e. **discounting** – and the financial risks related to the expected cash flows (to the extent that they are not already included in the estimates of expected cash flows).

– An explicit **risk adjustment for non-financial risk**: to reflect the compensation that the entity requires for bearing the uncertainty about the amount and timing of cash flows that arise from non-financial risk.



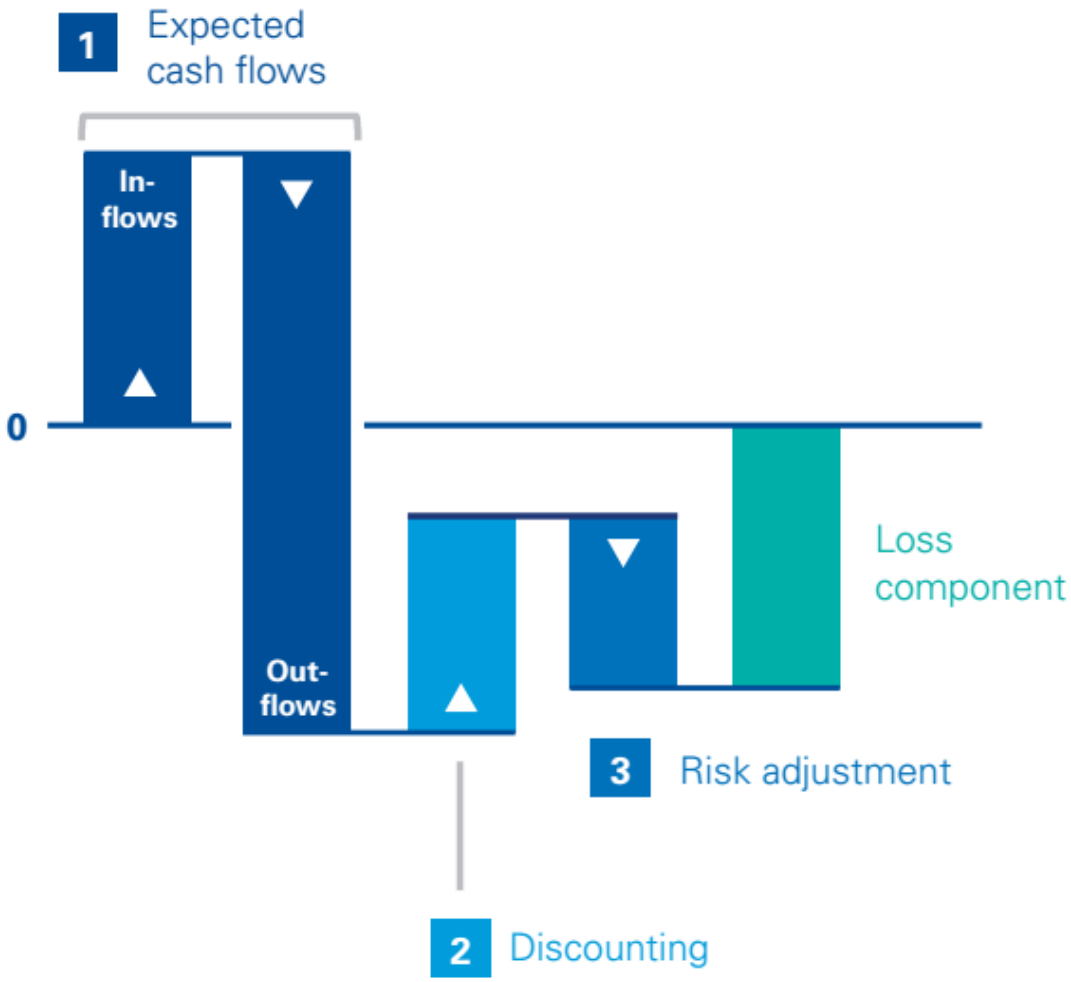
Note: Depending on the facts and circumstances, the size and direction of the components could vary. On initial recognition, for a group of profitable insurance contracts, the total of:

– the fulfillment cash flows;
– the derecognition on of any asset recognized for insurance acquisition cash flows related to the group of contracts;
– the derecognition of any asset or liability previously recognized under other standards for cash flows related to the group of contracts; and
– any cash flows arising from the contracts in the group at that date, is a net cash inflow. The CSM is the equal and opposite amount to that net inflow. It ensures that no income or expense arises from the group of contracts on initial recognition.

If the total mentioned above is a net cash outflow, then the group of contracts is onerous. A loss is recognized immediately in the statement of financial performance for the entire net cash outflow.

This result in the carrying amount of the insurance liability for the group being equal to the fulfillment cash flows and the Contractual Service Margin (CSM) of the group being zero. A loss

component is created for this net cash outflow, which determines the amounts that are subsequently presented in profit or loss as reversals of losses on onerous groups. These amounts are not included in determining insurance revenue.



Note: Depending on the facts and circumstances, the size and direction of the components could vary.

4.4 Estimated Future Cash Flows

The key characteristics of the measurement of estimates of future cash flows, namely they:

i. Include all future cash flows within the contract boundary, including those that may have been previously accounted for separately from the insurance contract liability (e.g., overdue premiums);

ii. Are estimates of the probability-weighted mean of the full range of possible outcomes;
iii. Are unbiased (i.e., they do not include the risk adjustment for non-financial risk);
iv. Reflect the perspective of the entity rather than a market perspective (except that estimates of market variables are consistent with observable market values for those variables);
v. Are current; and
vi. Are explicit;

In estimating future cash flows, it may be necessary to reflect the specifics of the entity for which the cash flows are being estimated. For example, different entities may have different underwriting or claim settlement practices that might affect the estimated future cash flows. While past experience may reflect the practices in effect at the time, if the entity has made changes to those practices, assumptions based on past experience may need to be adjusted for the changes.

Cash flows referred to in IFRS are primarily payments of cash exchanged between the parties under an insurance contract in accordance with the terms and conditions of the contract. The term "cash flow" may also be used as shorthand for other transfers of economic resources (i.e., cash flow equivalents) that are not settled in cash between the parties to the insurance contract (e.g., paying a third party to repair an automobile).

Cash flows may also include such items as administration costs, certain overheads, payments to third parties, and non-cash transactions (e.g., the provision of insurance-related goods and services). Future cash flows may refer to any component of the insurance contract that is covered by IFRS excluding separated components. Cash flows include components that might sometimes be seen as separate but are not separate under IFRS (e.g., policy riders or policy loans).

"Cash flows within the boundary of an insurance contract are those that relate directly to the fulfillment of the contract, including cash flows for which the entity has discretion over the amount or timing."

These cash flows include, but are not limited to:

- Premiums, including overdue premiums;
- Payments to (or on behalf of) policyholders including:
    - Claims that have been reported but not yet paid;
    - Incurred claims that have not yet been reported

    - o Payments that depend on returns of underlying items (Contracts with Participation Features and Other Variable Cash Flows);
    - o Payments to third parties in fulfilling obligations to (or on behalf of) the policyholder (e.g., in third-party liability insurance or participating benefits where the contract grants the entity discretion to whom surplus is distributed);
    - o Payments from embedded derivatives if not separated;
- Payments on future claims on unexpired risks;
- An allocation of insurance acquisition cash flows;
- Claim handling costs;
- Costs the entity will incur for payments in kind;
- Policy administration and maintenance costs;
- Transaction-based costs such as premium taxes and levies;
- Income Taxes either paid in a fiduciary capacity to meet obligations of the policyholder or specifically chargeable to the policyholder;
- Cash inflows from salvage, subrogation, and other recoveries;
- Retrospective premium adjustments based on claim experience within the contract boundary (e.g., some workers compensation and reinsurance contracts);
- An allocation of fixed and variable overheads directly attributable to fulfilling insurance contracts; and
- Any other costs specifically chargeable to the policyholder under the terms of the contract (e.g., fees contractually agreed for printing a new policy document after loss of the original one).

Cash flows can usually be identified at the individual contract level. For measurement purposes, however, contracts are aggregated into portfolios of insurance contracts ("portfolios") and groups of insurance contracts ("groups"). IFRS allows the entity to estimate the cash flows at whatever level of aggregation is most practical. If the entity makes estimates at a higher level, it needs to be able to allocate or apportion those estimates to groups so that the appropriate amounts are included in the measurement of the groups' fulfillment cash flows for remaining coverage and incurred claims.

Assumptions may be derived at aggregation levels that are different from the

aggregation level applied for measuring contracts. In such situations, judgment is needed to determine what adjustment(s), if any, to apply to determine cash flows at the required aggregation level. For example, maintenance expenses may be determined for all life insurance contracts combined, but separate assumptions may be needed for term insurance and whole life contracts.

In some situations, particularly for contracts covering multiple risks and/or perils, it may be helpful to analyze the experience separately for each of the multiple coverage's. Such separation, for analysis and projection purposes, is particularly appropriate where the balance of coverage's varies from contract to contract within a line of business (e.g., small business package policies). Such coverage cash flows may then be combined at the contract level if practical and useful, before contract cash flows are aggregated into groups for measurement purposes. Similar concerns will also apply to life insurance contracts with multiple risks (e.g., mortality and disability) or groups with multiple durations (e.g., 10, 20, and 30-year term in the same group).

In summary, states: "IFRS allows an entity to estimate the fulfillment cash flows at whatever level of aggregation is most appropriate from a practical perspective. All that is necessary is that the entity is able to allocate such estimates to groups of insurance contracts so that the resulting fulfillment cash flows of the group comply with requirements of IFRS."

A current estimate at the reporting date is the entity's estimate based on currently available information in a manner consistent with relevant accounting guidance. The term "current estimate" is used in this chapter as a short form for the "current unbiased estimate of the future cash flows".

IFRS defines the term "fulfillment cash flows" as including the risk adjustment for non-financial risk (herein shortened to "risk adjustment") and the effect of discounting. This chapter, however, does not refer to issues regarding calculating present values nor the risk adjustment but focuses on the identification of cash flows and estimating unbiased expected values of those cash flows.

4.5 Discount Rates Used

The discount rate is the interest rate used to determine the present value of future cash flows in a discounted cash flow (DCF) analysis. This helps determine if the future cash flows from a project or investment will be worth more than the capital outlay needed to fund the project or investment in the present.

The discount rate is the interest rate charged to commercial banks, insurance and other depository institutions on loans they receive from their regional Federal Reserve Bank's lending facility—the discount window.

The discount rate may reflect your cost of capital or the returns available on alternative investments of comparable risk. If the NPV of a project or investment is positive, it means its rate of return will be above the discount rate.

Example: Lisa expects an 8,000 investment to generate a 10% return in a year that is she is expecting a return of $8800 on her investment. Then the discount rate will be 10% for assessing any investment opportunity around her.

The discount rate serves as an important indicator of the condition of credit in an economy. Because raising or lowering the discount rate alters the banks' borrowing costs and hence the rates that they charge on loans, adjustment of the discount rate is considered a tool to combat recession or inflation.

The Discount Rate is a figure used to help calculate lump sum compensation payments for high value personal injury claims and is set by the Government. The principle behind a personal injury settlement is that it should leave the recipient in the same financial position as if the injury had never happened. It should also compensate for any changes to their lifestyle caused by their injuries, known as “loss of amenity.” Each case is different but factors that may be considered are ongoing medical and care costs, access needs and loss of employment income.

It is assumed that any lump sum payment will be invested, with the returns on the investment providing an income to the claimant. When investment returns are good, more money will be generated. But when investment returns fall, the money doesn’t go as far. Inflation will also play a role in the ongoing value of any settlement. The discount rate is designed to account for these factors.

The higher the discount rate, the smaller the lump sum will be. Conversely, the lower the discount rate, the larger the initial lump sum will be.

When does the discount rate apply?

The rate is applied to lump sum payments which include compensation for a claimant's future losses following a serious injury. Often these settlements are covered by motor, pubic liability or employer's liability insurance policies.

Alternatively, an insurer may come to an agreement with the victim to arrange a structured settlement annuity. Instead of making a lump sum payment structured settlements make regular, tax-free, payments over a defined period of time. Again an annuity would be set up to reflect the discount rate and changes in inflation for the lifetime of the agreement.

How is a payment calculated?

The calculation can appear complicated, but in essence it will reflect the losses the claimant will suffer and for how long, plus additional expenses such as ongoing medical care. Various factors are taken into account, such as life expectancy, how much the victim was earning and how long they had left before retirement. A rate depends on the cost of any agent commissions, expenses, profit margins and the type of property you're insuring. (For instance, a vehicle and a school building will have very different rates.) But a rate also depends on the risk for potential claims payments on the property. What this means is the features of the property to be insured can raise or lower your rate depending on the amount of risk associated with that feature and the type of insurance you're purchasing.

For example, for windstorm insurance, the type of roof and how it's connected to the building frame can be an important factor to calculate your insurance rate, because different materials and structural designs are more or less subject to wind damage. For flood insurance, factors affecting your rate might be the proximity to a body of water, the elevation, history of flooding in the area, etc. For any kind of property insurance there are a myriad of details – called COPE data – that are taken into account when calculating your insurance rate. COPE is an acronym that stands for Construction, Occupancy, Protection and Exposure, four categories of information that are collected about each property to calculate a rate. The more thorough your COPE data, the more

comprehensive and accurate your insurance coverage will be. And by demonstrating that your property has features that promote safety and reduce risk, you can help ensure you receive a better rate and, in turn, potentially lower insurance premiums.

4.6 Risk Adjustment for Non-Financial Risk

The risk adjustment for non-financial risk is the compensation that an entity requires for bearing the uncertainty about the amount and timing of the cash flows that arise from non-financial risk as the entity fulfils the insurance contract.

While difficult to define, non-financial risks can be understood in contrast to financial risks, which are (traditionally) risks around market, credit and liquidity, and which have a direct impact on core revenue-generating activities. That's not to say non-financial risks are without financial impact; all risks can have financial consequences. The key thing to note is that non-financial risks also need to be understood in a broader context. Non-financial risks include (but are not limited to):

- Environmental risks (including climate-related risk)
- Social risks (including understanding changing social norms)
- Supply chain transparency and other supply chain risks
- Health and safety risks
- Technology risks (including business continuity)
- Cyber security risks and data privacy breaches
- Compliance failure
- Misconduct.

These broad risks should then be broken down into specific risks. For example, the Task Force on Climate-related Financial Disclosures (TCFD) recommends businesses consider climate-related risks by two major categories: Transition risks (i.e risks related to the transition to a lower-carbon economy) and physical risks (i.e risks related to physical impacts of climate change). Breaking this down further, transition risks may entail policy and legal risks, technology and market changes, and reputational risk.34 Meanwhile, physical risks can be

caused by events (acute) or the result of longer-term (chronic) changes in climate patterns, and may disrupt supply chains, operations, or even employee safety.

Non-financial methods of motivation involve motivating employees in ways that don't involve money. Non-financial methods of motivation include job enlargement, job rotation, job enrichment, empowerment and training.

Job enlargement involves employees being provided with additional tasks as part of their daily role, for example a shop worker may work on both the tills and stacking shelves. The aim of job enlargement is to make a role more interesting and varied to motivate employees.

Job rotation involves an employee having more variety in their day-to-day role. It can motivate employees by avoiding them becoming bored with their job. There are two types of job rotation.

In the first type of job rotation, the employee has a number of different job roles in the business. For example, in a car manufacturing plant, this could mean an operator applying bumpers for part of the day, lights for part of the day and then wheels for the rest of the day.

In the second type of job rotation, the employee has a range of different duties within their role. For example, a software developer might spend part of the day developing a website and part of the day developing a software package.

Job enrichment involves enhancing employees' roles through providing a wider range of more challenging tasks for them to complete during the working day. In addition, job enrichment often means giving employees more responsibility, allowing them to make more decisions and enabling them to have more of a say in how they complete their role. However, they continue to work at the same level in the chain of command.

Common methods of job enrichment include:

- completing a variety of tasks
- having more flexibility in how a role is carried out
- making more decisions
- having more control of tasks and duties
- developing additional skills

- enhancing knowledge

Job enrichment has a number of potential benefits, such as increased motivation, lower absence rates, increased productivity and higher staff retention.

4.7 Contractual Service Margin

The contractual service margin (CSM) is a component of the insurance contract asset or liability that represents the estimated unearned profit the entity will recognize as and when it provides insurance contract services to the policyholder in the future. Recognition of the contractual service margin (CSM) in profit or loss under the general measurement model is currently determined by allocating the balance to coverage units, which are based on: the quantity of benefits provided under the contracts; and. the contracts' expected duration.

Insurance Contracts', includes in the measurement of insurance contracts a **contractual service margin** ('CSM'), representing the expected profit for providing insurance contract services. That expected profit is recognized in profit or loss as the entity provides insurance contract services. The CSM at the end of each reporting period represents the profit in the group of insurance contracts that has not yet been recognized in profit or loss because it relates to the future insurance contract services that will be provided under the contracts in the group.

the CSM to be adjusted for “the amount recognized as insurance revenue because of the transfer of insurance contract services in the period, determined by the allocation of the contractual service margin remaining at the end of the reporting period (before any allocation) over the current and remaining coverage period”. Thus, IFRS requires an entity to recognize the CSM of a group of insurance contracts over the coverage period of the group. The coverage period is the period during which the entity provides insurance contract services.

IFRS is not prescriptive about many aspects of recognizing the CSM in profit or loss. An amount of the CSM for a group of insurance contracts to be recognized in profit or loss in each period to

reflect the insurance contract services provided under the group of insurance contracts in that period. That amount is determined by:

A. Identifying the coverage units in the group. The number of coverage units in a group is the quantity of coverage provided by the contracts in the group, determined by considering for each contract the quantity of the benefits provided under a contract and its expected coverage duration;
B. Allocating the CSM at the end of the period (before recognizing any amounts in profit or loss to reflect the benefits provided in the period) equally to each coverage unit provided in the current period and expected to be provided in the future; and
C. Recognizing in profit or loss the amount allocated to coverage units provided in the period.

Financial Answering and Questions on determining coverage units	
Does an entity have an accounting policy choice over how to determine coverage units for a group of contracts?	The determination of coverage units is not an accounting policy choice, but it involves estimation uncertainty and is likely to require the application of significant judgment to best achieve the principle of reflecting the benefits provided in each period. Those judgments' and estimates should be applied systematically and rationally. In addition, an entity must disclose information about the judgments and estimates that it makes
At what level should coverage units be determined?	IFRS requires an entity, for the purpose of recognizing CSM in profit or loss, to identify the coverage units at the level of a group of contracts.
Can the time value of money (discounting) be taken into account in determining the allocation of the CSM to reporting periods using coverage units?	Yes. Whether discounting is taken into account in determining the allocation of CSM is a matter of judgment for an entity. However, the judgment would be expected to be applied consistently. The contractual service margin remaining at the end of the reporting period to be allocated equally to the coverage units provided in the period and the expected remaining coverage units. IFRS does not specify

	whether an entity should consider the time Spotlight value of money in determining that equal allocation and consequently does not specify whether that equal allocation should reflect the timing of the expected provision of the coverage units. The Board concluded that should be a matter of judgment by an entity". The IASB Illustrative how the time value of money could be considered when the CSM is allocated, and notes that: "The entity could achieve the objective of the recognition of the contractual service margin on the basis of the coverage units using a different pattern. For example, the entity could allocate equally in each period the contractual service margin including the total interest expected to be accreted over the coverage period".

4.8 Subsequent Measurement of Insurance Contracts

All insurance contracts that fall within the scope of IFRS are required to be measured in accordance with the General Model unless they meet the necessary requirements in IFRS to be measured in accordance with either the Premium Allocation Approach or the Variable Fee Approach. For now, we will focus on the **General Model**.

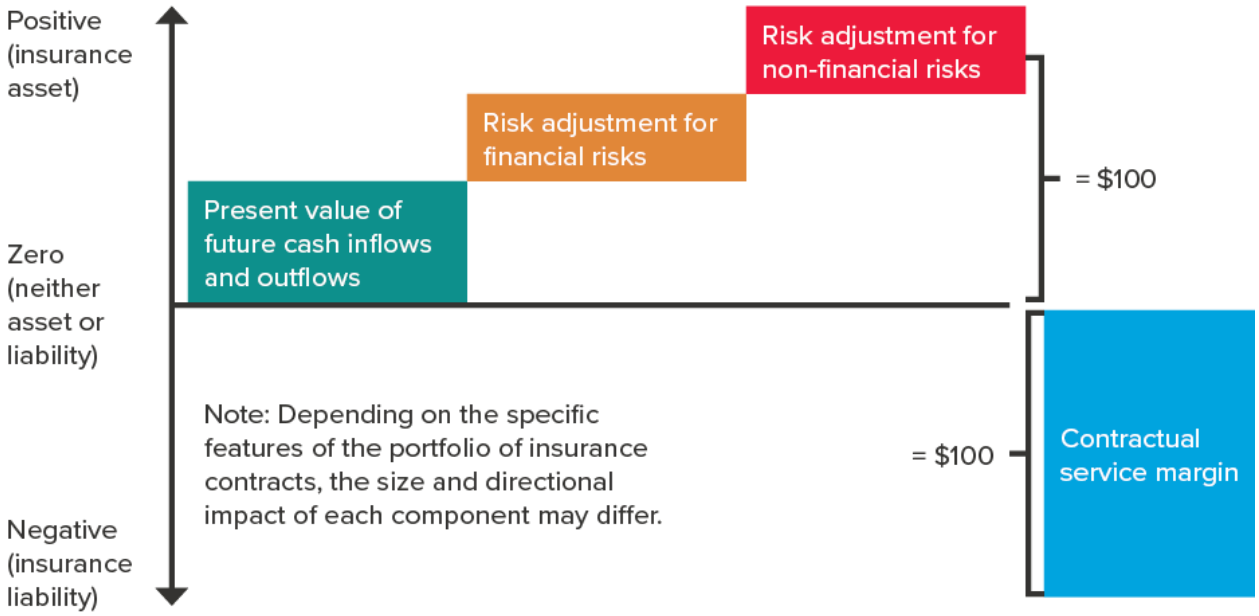
The **General Model** comprises the following 'building block:

- **Fulfillment cash flows**, including:
    - The insurer's best estimates of the future cash inflows and cash outflows that relate directly to the fulfillment of the portfolio of contracts, including cash flows relating to any onerous contract liabilities
    - An adjustment to reflect the time value of money and the **financial risks** related to the future cash flows, to the extent that the financial risks are not included in the estimates of the future cash flows, and
    - A **risk adjustment for non-financial risk**, and

- A **contractual service margin**, which represents the estimated unearned profit the entity will recognize as and when it provides insurance contract services to the policyholder in the future.

The relationship between these components in the context of a **profitable portfolio of insurance contracts** can be demonstrated diagrammatically as follows.

GENERAL MEASUREMENT MODEL - PROFITABLE CONTRACTS



As demonstrated in the diagram above, if a portfolio of insurance contracts are determined to be profitable on initial recognition, the contractual service margin is measured at the fulfillment cash flows estimated for the portfolio and initially treated as a reduction in the expected fulfillment cash inflows, the effect of which is to make the initial carrying amount of the portfolio $0 ($100 - $100). This prevents an insurer recognizing an asset (and a 'day-one gain') in respect to a portfolio of profitable insurance contracts on initial recognition.

4.9 Modification of Insurance Contracts

A contract under which one party (the issuer), accepts significant insurance risk from another party (the policyholder), by agreeing to compensate the policyholder if a specified uncertain

future event (the insured event) adversely affects the policyholder. If the terms of an insurance contract are modified, for example by agreement between the parties to the contract or by a change in regulation, an entity shall derecognize the original contract and recognize the modified contract as a new contract, applying IFRS or other applicable Standards if, and only if, any of the conditions in (a) and (b) are satisfied. The exercise of a right included in the terms of a contract is not a modification. The conditions are that:

A contract modification occurs when the parties to the contract agree on a change to the terms of a contract. An entity shall:

A derecognize the original insurance contract and recognize the modified contract as a new contract in accordance with this or other applicable Standards if any of the following conditions are satisfied:

(i) the modified contract would have been excluded from the scope of this [draft] Standard in accordance with if it had been written at contract inception with the modified terms;

(ii) (ii) the entity applied the premium-allocation approach in paragraphs 38–40 to the original contract, but the modified contract no longer meets the eligibility criteria for that approach; or

(iii) the modified contract would have been included in a different portfolio from the one in which it was included at initial recognition if it had been written at contract inception with the modified terms. The consideration for the new contract is deemed to be the premium that the entity would have charged the policyholder if it had entered into a contract with equivalent terms at the date of the contract modification.

B. account for modifications that do not meet the conditions in (a) as follows:

(i) recognize an obligation to provide additional benefits that result from the contract modifications as a new contract—the entity shall determine the contractual service margin for the new contract by reference to the additional premium that was charged for the modification;

(ii) account for a reduction in benefits that results from the contract modifications by derecognizing the part of the contract that is related to the reduction of benefits; and

(iii) to changes in cash flows that are not accompanied by a change in the level of benefits as changes in estimates of fulfillment cash flows.

4.10 Derecognition of Insurance Contracts

An insurance contract is derecognized when it is extinguished, i.e. the obligation specified in the insurance contract expires, is discharged or is cancelled.

It is not often difficult to decide whether a financial instrument should be derecognized. For example, if a manufacturer receives cash in settlement of a receivable, there are no longer any rights to receive cash from the asset, and the receivable is derecognized. But many transactions are more complex; as a result, the derecognition requirements in IAS, 'Financial instruments: Recognition and measurement', are complex. IAS contains one set of requirements that apply to the derecognition of all financial assets, from the simple maturity of an instrument to the more complex securitization transactions.

Despite the requirements having been in place for a few years, entities are still learning how to implement some aspects – in particular, the unique model of continuing involvement, which can be challenging to apply in practice. This is also an evolving area because the IFRIC is considering some key issues, and the results of its discussions could significantly affect how some transactions are accounted for. This publication aims to provide an understanding of the requirements and how to apply them in practice.

4.11 Disclosures

The objective of the disclosure requirements is to enable users of financial statements to understand the nature, amount, timing and uncertainty of future cash flows that arise from

insurance contracts. To achieve this objective, an entity to disclose qualitative and quantitative information about:

(a) The amounts recognized in its financial statements that arise from insurance contracts;

(b) The significant judgments, and changes in those judgments, made when applying the Standard; and

(c) The nature and extent of the risks that arise from insurance contracts. The principle of the disclosures is supplemented with the specific disclosure requirements designed to help the entity to satisfy that principle. In addition, that if any required disclosures are not considered relevant in meeting the objective, they may be omitted in the financial statements. The staff does not propose to revisit the disclosure principles.

However, the following paragraphs consider the need for disclosures arising from:

(a) Tentative decisions since the 2013 such as related to the presentation of interest expense in OCI; and

(b) The publication of IFRS Revenue from Contacts with Customers.

The staff also considers disclosures overall to respond to the feedback from preparers and users of financial statement.

CHAPTER FIVE

5. REVISITING THE STATEMENT OF CASH FLOWS

5.1 Importance of statement of cash flows

The statement of cash flows provides information to help investors, creditors, and others assess the following:-

1. ***The entity's ability to generate future cash flows*****.** A primary objective of financial reporting is to provide information with which to predict the amounts, timing, and uncertainty of future cash flows. By examining relationships between items such as sales and net cash flow from operating activities, or net cash flow from operating activities and increases or decreases in cash, it is possible to better predict the future cash flows than is possible using accrual-basis data alone.

2. ***The entity's ability to pay dividends and meet obligations.*** Simply put, cash is essential. Without adequate cash, a company cannot pay employees, settle debts, pay out dividends, or acquire equipment. A statement of cash flows indicates where the company's cash comes from and how the company uses its cash. Employees, creditors, stockholders, and customers should be particularly interested in this statement, because it alone shows the flows of cash in a business.

3. ***The reasons for the difference between net income and net cash flow from operating activities.*** The net income number is important: It provides information on the performance of a company from one period to another. But some people are critical of accrual-basis net income because companies must make estimates to arrive at it. Such is not the case with cash. Thus, as the opening story showed, financial statement readers can benefit from knowing why a company's net income and net cash flow from operating activities differ, and can assess for themselves the reliability of the income number.

4. ***The cash and noncash investing and financing transactions during the period.*** Besides operating activities, companies undertake investing and financing transactions. *Investing*

activities include the purchase and sale of assets other than a company's products or services. *Financing* activities include borrowings and repayments of borrowings, investments by owners, and distributions to owners. By examining a company's investing and financing activities, a financial statement reader can better understand why assets and liabilities increased or decreased during the period.

5.2 Classifications of cash flows

The statement of cash flows classifies cash receipts and cash payments by operating, investing, and financing activities. Transactions and other events characteristic of each kind of activity is as follows.

1. **Operating activities** involve the cash effects of transactions that enter into the determination of net income, such as cash receipts from sales of goods and services, and cash payments to suppliers and employees for acquisitions of inventory and expenses.
2. **Investing activities** generally involve long-term assets and include (a) making and collecting loans, and (b) acquiring and disposing of investments and productive long-lived assets.
3. **Financing activities** involve liability and stockholders' equity items and include (a) obtaining cash from creditors and repaying the amounts borrowed, and (b) obtaining capital from owners and providing them with a return on, and a return of, their investment.

Illustration 5-1 classifies the typical cash receipts and payments of a company according to operating, investing, and financing activities. The operating activities category is the most important. It shows the cash provided by company operations. This source of cash is generally considered to be the best measure of a company's ability to generate enough cash to continue as a going concern.

Operating

Cash inflows

From sales of goods or services.

From returns on loans (interest) and on equity securities (dividends).

Cash outflows

To suppliers for inventory.

To employees for services.

To government for taxes.

To lenders for interest.

To others for expenses.

Income Statement Items

Investing

Cash inflows

From sale of property, plant, and equipment.

From sale of debt or equity securities of other entities.

From collection of principal on loans to other entities.

Cash outflows

To purchase property, plant, and equipment.

To purchase debt or equity securities of other entities.

To make loans to other entities.

Generally Long-Term Asset Items

Financing

Cash inflows

From sale of equity securities.

From issuance of debt (bonds and notes).

Cash outflows

To stockholders as dividends.

To redeem long-term debt or reacquire capital stock.

Generally Long-Term Liability and Equity Items

ILLUSTRATION 5-1 Classification of Typical Cash Inflows and Outflows

5.3 Preparing the statement of cash flows

The basis recommended by the FASB for the statement of cash flows is actually "cash and cash equivalents." Cash equivalents are short-term, highly liquid investments that are both: (a) readily convertible to known amounts of cash, and (b) so near their maturity that they present insignificant risk of changes in interest rates. Generally, only investments with original maturities of three months or less qualify under this definition. Examples of cash equivalents are Treasury bills, commercial paper, and money market funds purchased with cash that is in excess of immediate needs.

Although we use the term "cash" throughout our discussion and illustrations, we mean cash and cash equivalents when reporting the cash flows and the net increase or decrease in cash.

Note the following general guidelines about the classification of cash flows.

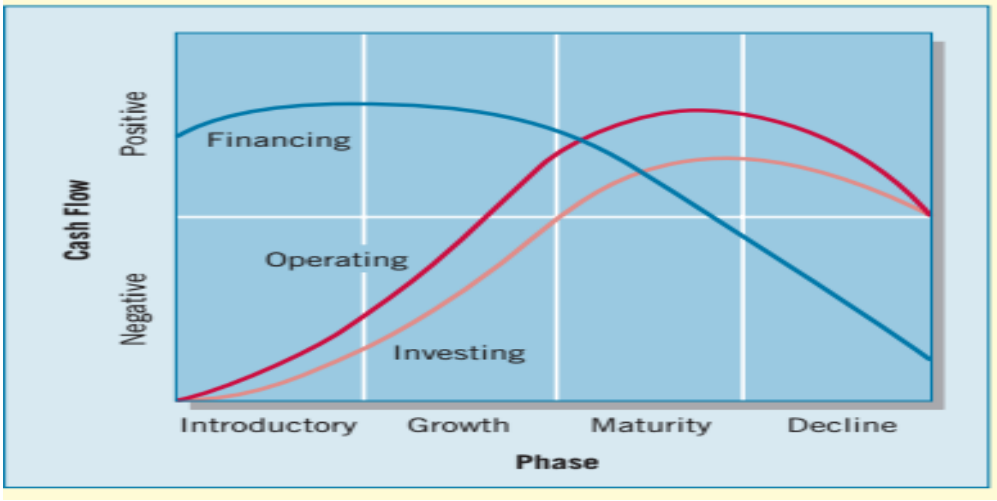
1. Operating activities involve income statement items.
2. Investing activities involve cash flows resulting from changes in investments and long-term asset items.
3. Financing activities involve cash flows resulting from changes in long-term liability and stockholders' equity items.

Companies classify some cash flows relating to investing or financing activities as operating activities. For example, companies classify receipts of investment income (interest and dividends) and payments of interest to lenders as operating activities. Why are these considered operating activities? Companies report these items in the income statement, where the results of operations are shown.

Conversely, companies classify some cash flows relating to operating activities as investing or financing activities. For example, a company classifies the cash received from the sale of property, plant, and equipment at a gain, although reported in the income statement, as an investing activity. It excludes the effects of the related gain in net cash flow from operating activities. Likewise, a gain or loss on the payment (extinguishment) of debt is generally part of the cash outflow related to the repayment of the amount borrowed. It therefore is a financing activity.

HOW'S MY CASH FLOW?

To evaluate overall cash flow, it is useful to understand where in the product life cycle a company is. Generally, companies move through several stages of development, which have implications for cash flow. As the graph below shows, the pattern of cash flows from operating, financing, and investing activities will vary depending on the stage of the product life cycle.



In the introductory phase, the product is likely not generating much revenue (operating cash flow is negative). Because the company is making heavy investments to get a product off the ground, cash flow from investment is negative, and financing cash flows are positive.

Banks and brokers must classify cash flows from purchases and sales of loans and securities specifically for resale and carried at market value as operating activities. This requirement recognizes that for these firms these assets are similar to inventory in other businesses.

As the product moves to the growth and maturity phases, these cash flow relationships reverse. The product generates more cash flow from operations, which can be used to cover investments needed to support the product, and less cash is needed from financing. So is a negative operating cash flow bad? Not always. It depends on the product life cycle.

Format of the Statement of Cash Flows

The three activities we discussed above constitute the general format of the statement

of cash flows. The operating activities section always appears first. It is followed by the investing activities section and then the financing activities section. A company reports the individual inflows and outflows from investing and financing activities separately. That is, a company reports them gross, not netted against one another. Thus, a cash outflow from the purchase of property is reported separately from the cash inflow from the sale of property. Similarly, a cash inflow from the issuance of debt is reported separately from the cash outflow from its retirement.

The net increase or decrease in cash reported during the period should reconcile the beginning and ending cash balances as reported in the comparative balance sheets. The general format of the statement of cash flows presents the results of the three activities discussed previously–operating, investing, and financing. Illustration 5-2 shows a widely used form of the statement of cash flows.

COMPANY NAME
STATEMENT OF CASH FLOWS
PERIOD COVERED

Cash flows from operating activities		
Net income		XXX
Adjustments to reconcile net income to net cash provided (used) by operating activities:		
(List of individual items)	XX	XX
Net cash provided (used) by operating activities		XXX
Cash flows from investing activities		
(List of individual inflows and outflows)	XX	
Net cash provided (used) by investing activities		XXX
Cash flows from financing activities		
(List of individual inflows and outflows)	XX	
Net cash provided (used) by financing activities		XXX
Net increase (decrease) in cash		XXX
Cash at beginning of period		XXX
Cash at end of period		XXX

LLUSTRATION 5-2 Format of the Statement of Cash Flows

STEPS IN PREPARATION

Companies prepare the statement of cash flows differently from the three other basic financial statements. For one thing, it is not prepared from an adjusted trial balance. The cash flow statement requires detailed information concerning the changes in account balances that occurred between two points in time. An adjusted trial balance will not provide the necessary data. Second, the statement of cash flows deals with cash receipts and payments. As a result, the company must adjust the effects of the use of accrual accounting to determine cash flows. The information to prepare this statement usually comes from three sources:

1. **Comparative balance sheets** provide the amount of the changes in assets, liabilities, and equities from the beginning to the end of the period.
2. **Current income statement** data help determine the amount of cash provided by or used by operations during the period.
3. **Selected transaction data** from the general ledger provide additional detailed information needed to determine how the company provided or used cash during the period.

Preparing the statement of cash flows from the data sources above involves three major steps:

Step 1. ***Determine the change in cash.*** This procedure is straightforward. A company can easily compute the difference between the beginning and the ending cash balance from examining its comparative balance sheets.

Step 2. ***Determine the net cash flow from operating activities.*** This procedure is complex. It involves analyzing not only the current year's income statement but also comparative balance sheets as well as selected transaction data.

Step 3. ***Determine net cash flows from investing and financing activities.*** A company must analyze all other changes in the balance sheet accounts to determine their effects on cash.

On the following pages we work through these three steps in the process of preparing the statement of cash flows for Tax Consultants Inc. over several years.

FIRST EXAMPLE—2009

To illustrate a statement of cash flows, we use the **first year of operations** for Tax Consultants

Inc. The company started on January 1, 2009, when it issued 60,000 shares of $1 par value common stock for $60,000 cash. The company rented its office space, furniture, and equipment, and performed tax consulting services throughout the first year. The comparative balance sheets at the beginning and end of the year 2009 appear in Illustration 5-3.

TAX CONSULTANTS INC.

COMPARATIVE BALANCE SHEETS

Assets	Dec. 31, 2009	Jan. 1, 2009	Change Increase/Decrease
Cash	$49,000	$–0–	$49,000 Increase
Accounts receivable	36,000	–0–	36,000 Increase
Total	$85,000	$–0–	
Liabilities and Stockholders' Equity			
Accounts payable	$ 5,000	$–0–	$ 5,000 Increase
Common stock ($1 par)	60,000	–0–	60,000 Increase
Retained earnings	20,000	–0–	20,000 Increase
Total	$85,000	$–0–	

ILLUSTRATION 5-3 Comparative Balance Sheets, Tax Consultants Inc., Year 1

Illustration 5-4 shows the income statement and additional information for Tax Consultants.

TAX CONSULTANTS INC.

INCOME STATEMENT

FOR THE YEAR ENDED DECEMBER 31, 2009

Revenues	$125,000
Operating expenses	85,000
Income before income taxes	40,000
Income tax expense	6,000
Net income	$ 34,000

ILLUSTRATION 5-4 Income Statement, Tax Consultants Inc., Year 1

Additional Information

Examination of selected data indicates that a dividend of $14,000 was declared and paid during the year.

Step 1: Determine the Change in Cash

To prepare a statement of cash flows, the first step is to **determine the change in cash**. This is a simple computation. Tax Consultants had no cash on hand at the beginning of the year 2009. It had $49,000 on hand at the end of 2009. Thus, cash changed (increased) in 2009 by $49,000.

Step 2: Determine Net Cash Flow from Operating Activities

To determine net cash flow from operating activities,3 companies adjust net income in numerous ways. A useful starting point is to understand why net income must be converted to net cash provided by operating activities.

Under generally accepted accounting principles, most companies use the accrual basis of accounting. As you have learned, this basis requires that companies record revenue when earned and record expenses when incurred. Earned revenues may include credit sales for which the company has not yet collected cash. Expenses incurred may include some items that the company has not yet paid in cash. Thus, under the accrual basis of accounting, net income is not the same as net cash flow from operating activities.

To arrive at net cash flow from operating activities, a company must determine revenues and expenses on a **cash basis**. **It does this by eliminating the effects of income statement transactions that do not result in an increase or decrease in cash.** Illustration 5-5 shows the relationship between net income and net cash flow from operating activities.

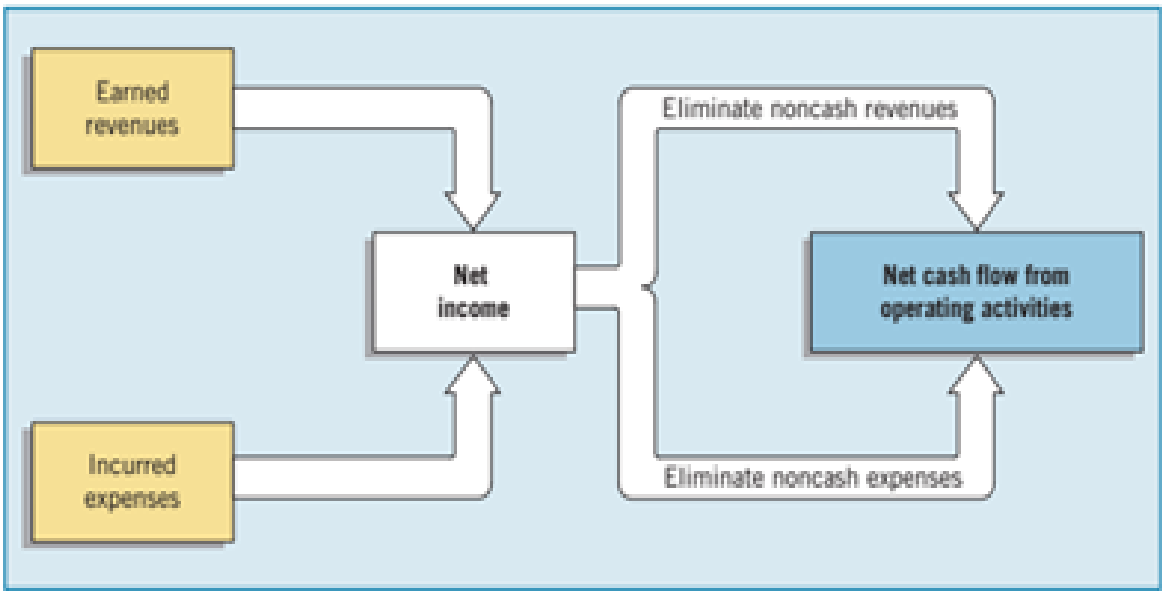


ILLUSTRATION 5-5 Net income versus Net cash flow from operating activities

Net cash flow from operating activities" is a generic phrase, replaced in the statement of cash flows with either "Net cash provided by operating activities" if operations increase cash, or "Net cash used by operating activities" if operations decrease cash.

In this chapter, we use the term net income to refer to accrual-based net income. A company may convert net income to net cash flow from operating activities through either a direct method or an indirect method. We explain both methods in the following sections.

Direct Method

The **direct method,** (also called the **income statement method**) reports cash receipts and cash disbursements from operating activities. The difference between these two amounts is the net cash flow from operating activities. In other words, the direct method deducts operating cash disbursements from operating cash receipts. The direct method results in the presentation of a condensed cash receipts and cash disbursements statement.

As indicated from the accrual-based income statement, Tax Consultants reported revenues of $125,000. However, because the company's accounts receivable increased during 2009 by $36,000, the company collected only $89,000 ($125,000 - $36,000) in cash

from these revenues. Similarly, Tax Consultants reported operating expenses of $85,000. However, accounts payable increased during the period by $5,000. Assuming that these payables relate to operating expenses, cash operating expenses were $80,000 ($85,000 $5,000). Because no taxes payable exist at the end of the year, the company must have paid $6,000 income tax expense for 2009 in cash during the year. Tax Consultants computes net cash flow from operating activities as shown in Illustration 5-6.

Cash collected from revenues	$89,000
Cash payments for expenses	80,000
Income before income taxes	9,000
Cash payments for income taxes	6,000
Net cash provided by operating activities	$ 3,000

ILLUSTRATION 5-6 Computation of Net Cash Flow from Operating Activities, Year 1—Direct Method

"Net cash provided by operating activities" is the equivalent of cash basis net income. ("Net cash used by operating activities" is equivalent to cash basis net loss.)

Indirect Method

The **indirect method** (or **reconciliation method**) starts with net income and converts it to net cash flow from operating activities. In other words, **the indirect method adjusts net income for items that affected reported net income but did not affect cash**. To compute net cash flow from operating activities, a company adds back noncash charges in the income statement to net income and deducts noncash credits. We explain the two adjustments to net income for Tax Consultants, namely, the increases in accounts receivable and accounts payable, as follows. ***Increase in Accounts Receivable—Indirect Method.*** Tax Consultant's accounts receivable increased by $36,000 (from $0 to $36,000) during the year. For Tax Consultants, this means that cash receipts were $36,000 lower than revenues. The Accounts Receivable account in Illustration 5-7 shows that Tax Consultants had $125,000 in revenues (as reported on the income statement), but it collected only $89,000 in cash.

Accounts Receivable		
1/1/09	Balance –0– Revenues 125,000	Receipts from customer 89,000
12/31/09	Balance 36,000	

ILLUSTRATION 5-7 Analysis of Accounts Receivable

As shown in Illustration 5-8, to adjust net income to net cash provided by operating activities, Tax Consultants must deduct the increase of $36,000 in accounts receivable from net income. When the Accounts Receivable balance *decreases*, cash receipts are higher than revenue earned under the accrual basis. Therefore, the company adds to net income the amount of the decrease in accounts receivable to arrive at net cash provided by operating activities.

Increase in Accounts Payable—Indirect Method. When accounts payable increase during the year, expenses on an accrual basis exceed those on a cash basis. Why? Because Tax Consultants incurred expenses, but some of the expenses are not yet paid. To convert net income to net cash flow from operating activities, Tax Consultants must add back the increase of $5,000 in accounts payable to net income.

As a result of the accounts receivable and accounts payable adjustments, Tax Consultants determines net cash provided by operating activities is $3,000 for the year 2009. Illustration 5-8 shows this computation.

Net income		$34,000
Adjustments to reconcile net income to net cash provided by operating activities:		
Increase in accounts receivable	$(36,000)	
Increase in accounts payable	5,000	(31,000)
Net cash provided by operating activities		$ 3,000

ILLUSTRATION 5-8 Computation of Net Cash Flow from Operating Activities, Year 1—Indirect Method

Note that net cash provided by operating activities is the same whether using the direct (Illustration 5-6) or the indirect method (Illustration 5-8).

Step 3: Determine Net Cash Flows from Investing and Financing Activities

After Tax Consultants has computed the net cash provided by operating activities, the next step is to determine whether any other changes in balance sheet accounts caused an increase or decrease in cash.

For example, an examination of the remaining balance sheet accounts for Tax Consultants shows increases in both common stock and retained earnings. The common stock increase of $60,000 resulted from the issuance of common stock for cash. The issuance of common stock is reported in the statement of cash flows as a receipt of cash from a financing activity.

Two items caused the retained earnings increase of $20,000:

1. Net income of $34,000 increased retained earnings.

2. Declaration of $14,000 of dividends decreased retained earnings.

Tax Consultants has converted net income into net cash flow from operating activities, as explained earlier. The additional data indicate that it paid the dividend. Thus, the company reports the dividend payment as a cash outflow, classified as a financing activity.

Statement of Cash Flows—2009

We are now ready to prepare the statement of cash flows. The statement starts with the operating activities section. Tax Consultants may use either the direct or indirect method to report net cash flow from operating activities.

The FASB **encourages** the use of the direct method over the indirect method. If a company uses the direct method of reporting net cash flow from operating activities, the FASB **requires** that the company provide in a separate schedule a reconciliation of net income to net cash flow from operating activities. If a company uses the indirect method, it can either report the reconciliation within the statement of cash flows or can provide it in a separate schedule, with the statement of cash flows reporting only the **net** cash flow from operating activities. Throughout this chapter we use the indirect method, which is also used more extensively in practice. *In doing homework assignments, you should follow instructions for use of either the direct or indirect method.* Illustration 5-9 shows the statement of cash flows for Tax Consultants Inc., for year 1 (2009).

TAX CONSULTANTS INC.
STATEMENT OF CASH FLOWS
FOR THE YEAR ENDED DECEMBER 31, 2009
INCREASE (DECREASE) IN CASH

Cash flows from operating activities		
Net income		$34,000
Adjustments to reconcile net income to net		
cash provided by operating activities:		
Increase in accounts receivable	$(36,000)	
Increase in accounts payable	5,000	(31,000)
Net cash provided by operating activities		3,000
Cash flows from financing activities		
Issuance of common stock	60,000	
Payment of cash dividends	(14,000)	
Net cash provided by financing activities		46,000
Net increase in cash		49,000
Cash, January 1, 2009		–0–
Cash, December 31, 2009		$49,000

As indicated, the $60,000 increase in common stock results in a financing-activity cash inflow. The payment of $14,000 in cash dividends is a financing-activity outflow of cash. The $49,000 increase in cash reported in the statement of cash flows agrees with the increase of $49,000 shown in the comparative balance sheets as the change in the cash account.

SECOND EXAMPLE—2010

Tax Consultants Inc. continued to grow and prosper in its second year of operations. The company purchased land, building, and equipment, and revenues and net income increased substantially over the first year. Illustrations 5-10 and 5-11 present information related to the second year of operations for Tax Consultants Inc.

TAX CONSULTANTS INC.
COMPARATIVE BALANCE SHEETS
AS OF DECEMBER 31

Assets	2010	2009	Change Increase/Decrease
Cash	$ 37,000	$49,000	$ 12,000 Decrease
Accounts receivable	26,000	36,000	10,000 Decrease
Prepaid expenses	6,000	–0–	6,000 Increase
Land	70,000	–0–	70,000 Increase
Building	200,000	–0–	200,000 Increase
Accumulated depreciation—building	(11,000)	–0–	11,000 Increase
Equipment	68,000	–0–	68,000 Increase
Accumulated depreciation—equipment	(10,000)	–0–	10,000 Increase
Total	$386,000	$85,000	
Liabilities and Stockholders' Equity			
Accounts payable	$ 40,000	$ 5,000	$ 35,000 Increase
Bonds payable	150,000	–0–	150,000 Increase
Common stock ($1 par)	60,000	60,000	–0–
Retained earnings	136,000	20,000	116,000 Increase
Total	$386,000	$85,000	

TAX CONSULTANTS INC.
INCOME STATEMENT
FOR THE YEAR ENDED DECEMBER 31, 2010

Revenues		$492,000
Operating expenses (excluding depreciation)	$269,000	
Depreciation expense	21,000	290,000
Income from operations		202,000
Income tax expense		68,000
Net income		$134,000

Additional Information
(a) The company declared and paid an $18,000 cash dividend.
(b) The company obtained $150,000 cash through the issuance of long-term bonds.
(c) Land, building, and equipment were acquired for cash.

Step 1: Determine the Change in Cash

To prepare a statement of cash flows from the available information, the first step is to determine the change in cash. As indicated from the information presented, cash decreased $12,000 ($49,000 - $37,000).

Step 2: Determine Net Cash Flow from Operating Activities—Indirect Method

Using the indirect method, we adjust net income of $134,000 on an accrual basis to arrive at net cash flow from operating activities. Explanations for the adjustments to net income follow.

Decrease in Accounts Receivable. Accounts receivable decreased during the period, because cash receipts (cash-basis revenues) are higher than revenues reported on an accrual basis. To convert net income to net cash flow from operating activities, the decrease of $10,000 in accounts receivable must be added to net income.

Increase in Prepaid Expenses. When prepaid expenses (assets) increase during a period, expenses on an accrual-basis income statement are lower than they are on a cash basis income statement. The reason: Tax Consultants has made cash payments in the current period, but expenses (as charges to the income statement) have been deferred to future periods. To convert net income to net cash flow from operating activities, the company must deduct from net income the increase of $6,000 in prepaid expenses. An increase in prepaid expenses results in a decrease in cash during the period.

Increase in Accounts Payable. Like the increase in 2009, Tax Consultants must add the 2010 increase of $35,000 in accounts payable to net income, to convert to net cash flow from operating activities. The company incurred a greater amount of expense than the amount of cash it disbursed.

Depreciation Expense (Increase in Accumulated Depreciation). The purchase of depreciable assets is a use of cash, shown in the investing section in the year of acquisition. Tax Consultant's depreciation expense of $21,000 (also represented by the increase in accumulated depreciation) is a noncash charge; the company adds it back to net income, to arrive at net cash flow from operating activities. The $21,000 is the sum of the $11,000 depreciation on the building plus the $10,000 depreciation on the equipment. Certain other periodic charges to expense do not require the use of cash. Examples are the amortization of intangible assets and depletion expense. Such charges are treated in the same manner as depreciation. Companies frequently list depreciation and similar noncash charges as the first adjustments to net income in the statement of cash flows. As a result of the foregoing items, net cash provided by operating activities is $194,000 as shown in Illustration 5-12.

Net income		$134,000
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation expense	$21,000	
Decrease in accounts receivable	10,000	
Increase in prepaid expenses	(6,000)	
Increase in accounts payable	35,000	60,000
Net cash provided by operating activities		$194,000

ILLUSTRATION 5-12 Computation of Net Cash Flow from Operating Activities, Year 2—Indirect Method

Step 3: Determine Net Cash Flows from Investing and Financing Activities

After you have determined the items affecting net cash provided by operating activities, the next step involves analyzing the remaining changes in balance sheet accounts. Tax Consultants Inc. analyzed the following accounts.

Increase in Land. As indicated from the change in the land account, the company purchased land of $70,000 during the period. This transaction is an investing activity, reported as a use of cash.

Increase in Building and Related Accumulated Depreciation. As indicated in the additional data, and from the change in the building account, Tax Consultants acquired an office building using $200,000 cash. This transaction is a cash outflow, reported in the investing section. The $11,000 increase in accumulated depreciation results from recording depreciation expense on the building. As indicated earlier, the reported depreciation expense has no effect on the amount of cash.

Increase in Equipment and Related Accumulated Depreciation. An increase in equipment of $68,000 resulted because the company used cash to purchase equipment. This transaction is an outflow of cash from an investing activity. The depreciation expense entry for the period explains the increase in Accumulated Depreciation—Equipment.

Increase in Bonds Payable. The bonds payable account increased $150,000. Cash received from the issuance of these bonds represents an inflow of cash from a financing activity.

Increase in Retained Earnings. Retained earnings increased $116,000 during the year. Two factors explain this increase: (1) Net income of $134,000 increased retained earnings, and (2) dividends of $18,000 decreased retained earnings. As indicated earlier, the

company adjusts net income to net cash provided by operating activities in the operating activities section. Payment of the dividends is a financing activity that involves a cash outflow.

Statement of Cash —2010

Combining the foregoing items, we get a statement of cash flows for 2010 for Tax Consultants Inc., using the indirect method to compute net cash flow from operating activities.

TAX CONSULTANTS INC.
STATEMENT OF CASH FLOWS
FOR THE YEAR ENDED DECEMBER 31, 2010
INCREASE (DECREASE) IN CASH

Cash flows from operating activities		
Net income		$134,000
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation expense	$ 21,000	
Decrease in accounts receivable	10,000	
Increase in prepaid expenses	(6,000)	
Increase in accounts payable	35,000	60,000
Net cash provided by operating activities		194,000
Cash flows from investing activities		
Purchase of land	(70,000)	
Purchase of building	(200,000)	
Purchase of equipment	(68,000)	
Net cash used by investing activities		(338,000)
Cash flows from financing activities		
Issuance of bonds	150,000	
Payment of cash dividends	(18,000)	
Net cash provided by financing activities		132,000
Net decrease in cash		(12,000)
Cash, January 1, 2010		49,000
Cash, December 31, 2010		$ 37,000

ILLUSTRATION 5-13 Statement of Cash Flows, Tax Consultants Inc., Year 2

THIRD EXAMPLE—2011

Our third example, covering the 2011 operations of Tax Consultants Inc., is more complex. It again uses the indirect method to compute and present net cash flow from operating activities. Tax Consultants Inc. experienced continued success in 2011 and expanded its operations to include the sale of computer software used in tax-return preparation and tax planning. Thus, inventory is a new asset appearing in the company's December 31, 2011, balance sheet.

Illustrations 5-14 and 5-15 show the comparative balance sheets, income statements, and selected data for 2011.

TAX CONSULTANTS INC.
COMPARATIVE BALANCE SHEETS
AS OF DECEMBER 31

Assets	2011	2010	Change Increase/Decrease
Cash	$ 54,000	$ 37,000	$ 17,000 Increase
Accounts receivable	68,000	26,000	42,000 Increase
Inventories	54,000	–0–	54,000 Increase
Prepaid expenses	4,000	6,000	2,000 Decrease
Land	45,000	70,000	25,000 Decrease
Buildings	200,000	200,000	–0–
Accumulated depreciation—buildings	(21,000)	(11,000)	10,000 Increase
Equipment	193,000	68,000	125,000 Increase
Accumulated depreciation—equipment	(28,000)	(10,000)	18,000 Increase
Totals	$569,000	$386,000	
Liabilities and Stockholders' Equity			
Accounts payable	$ 33,000	$ 40,000	$ 7,000 Decrease
Bonds payable	110,000	150,000	40,000 Decrease
Common stock ($1 par)	220,000	60,000	160,000 Increase
Retained earnings	206,000	136,000	70,000 Increase
Totals	$569,000	$386,000	

TAX CONSULTANTS INC.
INCOME STATEMENT
FOR THE YEAR ENDED DECEMBER 31, 2011

Revenues		$890,000
Cost of goods sold	$465,000	
Operating expenses	221,000	
Interest expense	12,000	
Loss on sale of equipment	2,000	700,000
Income from operations		190,000
Income tax expense		65,000
Net income		$125,000

Additional Information

(a) Operating expenses include depreciation expense of $33,000 and expiration of prepaid expenses of $2,000.
(b) Land was sold at its book value for cash.
(c) Cash dividends of $55,000 were declared and paid.
(d) Interest expense of $12,000 was paid in cash.
(e) Equipment with a cost of $166,000 was purchased for cash. Equipment with a cost of $41,000 and a book value of $36,000 was sold for $34,000 cash.
(f) Bonds were redeemed at their book value for cash.
(g) Common stock ($1 par) was issued for cash.

Step 1: Determine the Change in Cash

The first step in the preparation of the statement of cash flows is to determine the change in cash. As the comparative balance sheets show, cash increased $17,000 in 2011.

Step 2: Determine Net Cash Flow from Operating Activities—Indirect Method

We explain the adjustments to net income of $125,000 as follows.

Increase in Accounts Receivable. The increase in accounts receivable of $42,000 represents recorded accrual-basis revenues in excess of cash collections in 2011. The company deducts this increase from net income to convert from the accrual basis to the cash basis.

Increase in Inventories. The $54,000 increase in inventories represents an operating use of cash, not an expense. Tax Consultants therefore deducts this amount from net income, to arrive at net cash flow from operations. In other words, when inventory purchased exceeds inventory sold during a period, cost of goods sold on an accrual basis is lower than on a cash basis.

Decrease in Prepaid Expenses. The $2,000 decrease in prepaid expenses represents a charge to the income statement for which Tax Consultants made no cash payment in the current period. The company adds back the decrease to net income, to arrive at net cash flow from operating activities.

Decrease in Accounts Payable. When accounts payable decrease during the year, cost of goods sold and expenses on a cash basis are higher than they are on an accrual basis. To convert net income to net cash flow from operating activities, the company must deduct the $7,000 in accounts payable from net income.

Depreciation Expense (Increase in Accumulated Depreciation). Accumulated Depreciation—Buildings increased $10,000 ($21,000 - $11,000). The Buildings account did not change during the period, which means that Tax Consultants recorded depreciation expense of $10,000 in 2011.

Accumulated Depreciation—Equipment increased by $18,000 ($28,000 - $10,000) during the year. But Accumulated Depreciation—Equipment decreased by $5,000 as a result of the sale during the year. Thus, depreciation for the year was $23,000. The company reconciled Accumulated Depreciation—Equipment as follows.

Beginning balance	$10,000
Add: Depreciation for 2011	23,000
	33,000
Deduct: Sale of equipment	5,000
Ending balance	$28,000

The company must add back to net income the total depreciation of $33,000 ($10,000 - $23,000) charged to the income statement, to determine net cash flow from operating activities.

Loss on Sale of Equipment. Tax Consultants Inc. sold for $34,000 equipment that cost $41,000 and had a book value of $36,000. As a result, the company reported a loss of $2,000 on its sale. To arrive at net cash flow from operating activities, it must add back to net income the loss on the sale of the equipment. The reason is that the loss is a noncash charge to the income statement. The loss did not reduce cash, but it did reduce net income. From the foregoing items, the company prepares the operating activities section of the statement of cash flows, as shown in Illustration 5-16.

Cash flows from operating activities		
Net income		$125,000
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation expense	$33,000	
Loss on sale of equipment	2,000	
Increase in accounts receivable	(42,000)	
Increase in inventories	(54,000)	
Decrease in prepaid expenses	2,000	
Decrease in accounts payable	(7,000)	(66,000)
Net cash provided by operating activities		59,000

ILLUSTRATION 5-16 Operating Activities Section of Cash Flows Statement

Step 3: Determine Net Cash Flows from Investing and Financing Activities

By analyzing the remaining changes in the balance sheet accounts, Tax Consultants identifies cash flows from investing and financing activities.

A similar adjustment is required for unrealized gains or losses recorded on trading security investments or other financial assets and liabilities accounted for under the fair value option. Marking these assets and liabilities to fair value results in an increase or decrease in income, but there is no effect on cash flows.

Land. Land decreased $25,000 during the period. As indicated from the information presented, the company sold land for cash at its book value. This transaction is investing activity, reported as a $25,000 source of cash.

Equipment. An analysis of the equipment account indicates the following.

Beginning balance	$ 68,000
Purchase of equipment	166,000
	234,000
Sale of equipment	41,000
Ending balance	$193,000

The company used cash to purchase equipment with a fair value of $166,000—an investing transaction reported as a cash outflow. The sale of the equipment for $34,000 is also an investing activity, but one that generates a cash inflow.

Bonds Payable. Bonds payable decreased $40,000 during the year. As indicated from the additional information, the company redeemed the bonds at their book value. This financing transaction used $40,000 of cash.

Common Stock. The common stock account increased $160,000 during the year. As indicated from the additional information, Tax Consultants issued common stock of $160,000 at par. This financing transaction provided cash of $160,000.

Retained Earnings. Retained earnings changed $70,000 ($206,000 - $136,000) during the year. The $70,000 change in retained earnings results from net income of $125,000 from operations and the financing activity of paying cash dividends of $55,000.

Statement of Cash Flows—2011

Tax Consultants Inc. combines the foregoing items to prepare the statement of cash flows shown in Illustration 5-17.

TAX CONSULTANTS INC.
STATEMENT OF CASH FLOWS
FOR THE YEAR ENDED DECEMBER 31, 2011
INCREASE (DECREASE) IN CASH

Cash flows from operating activities		
Net income		$125,000
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation expense	$ 33,000	
Loss on sale of equipment	2,000	
Increase in accounts receivable	(42,000)	
Increase in inventories	(54,000)	
Decrease in prepaid expenses	2,000	
Decrease in accounts payable	(7,000)	(66,000)
Net cash provided by operating activities		59,000
Cash flows from investing activities		
Sale of land	25,000	
Sale of equipment	34,000	
Purchase of equipment	(166,000)	
Net cash used by investing activities		(107,000)
Cash flows from financing activities		
Redemption of bonds	(40,000)	
Sale of common stock	160,000	
Payment of dividends	(55,000)	
Net cash provided by financing activities		65,000
Net increase in cash		17,000
Cash, January 1, 2011		37,000
Cash, December 31, 2011		$ 54,000

ILLUSTRATION 5-17 Statement of Cash Flows, Tax Consultants Inc., Year 3

SOURCES OF INFORMATION FOR THE STATEMENT OF CASH FLOWS

Important points to remember in the preparation of the statement of cash flows are these:

1. Comparative balance sheets provide the basic information from which to prepare the report. Additional information obtained from analyses of specific accounts is also included.
2. An analysis of the Retained Earnings account is necessary. The net increase or decrease in Retained Earnings without any explanation is a meaningless amount in the statement. Without explanation, it might represent the effect of net income, dividends declared, or prior period adjustments.
3. The statement includes all changes that have passed through cash or have resulted in an increase or decrease in cash.

4. Write-downs, amortization charges, and similar "book" entries, such as depreciation of plant assets, represent neither inflows nor outflows of cash, because they have no effect on cash. To the extent that they have entered into the determination of net income, however, the company must add them back to or subtract them from net income, to arrive at net cash provided (used) by operating activities.

NET CASH FLOW FROM OPERATING ACTIVITIES—INDIRECT VERSUS DIRECT METHOD

As we discussed previously, the two different methods available to adjust income from operations on an accrual basis to net cash flow from operating activities are the indirect (reconciliation) method and the direct (income statement) method. The FASB encourages use of the direct method and permits use of the indirect method. Yet, if the direct method is used, the Board requires that companies provide in a separate schedule a reconciliation of net income to net cash flow from operating activities. Therefore, under either method, companies must prepare and report information from the indirect (reconciliation) method.

Indirect Method

For consistency and comparability and because it is the most widely used method in practice, we used the indirect method in the examples just presented. We determined net cash flows from operating activities by adding back to or deducting from net income those items that had no effect on cash. Illustration 5-18 presents more completely the common types of adjustments that companies make to net income to arrive at net cash flow from operating activities.

The additions and deductions in Illustration 5-18 reconcile net income to net cash flow from operating activities, illustrating why the indirect method is also called the reconciliation method.

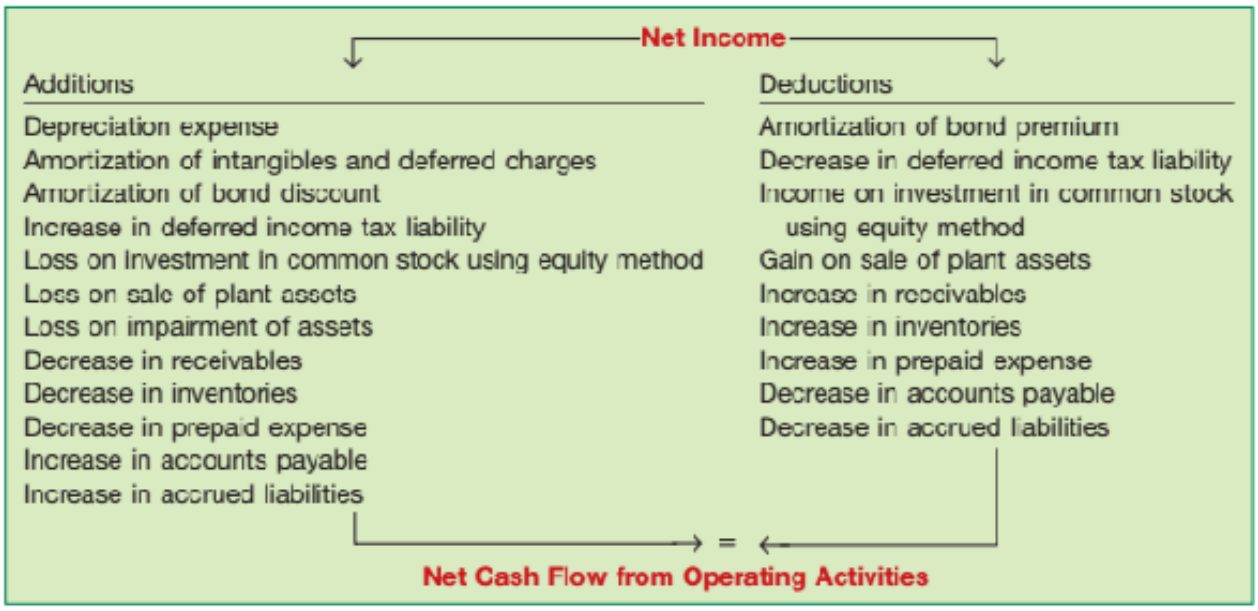


ILLUSTRATION 5-18 Adjustments Needed to Determine Net Cash Flow from Operating Activities—Indirect Method

Direct Method—An Example

Under the direct method the statement of cash flows reports net cash flow from operating activities as major classes of *operating cash receipts* (e.g., cash collected from customers and cash received from interest and dividends) and *cash disbursements* (e.g., cash paid to suppliers for goods, to employees for services, to creditors for interest, and to government authorities for taxes).

We illustrate the direct method here in more detail to help you understand the difference between accrual-based income and net cash flow from operating activities. This example also illustrates the data needed to apply the direct method. Libon Company, which began business on January 1, 2010, has the following selected balance sheet information.

	December 31, 2010	January 1, 2010
Cash	$159,000	–0–
Accounts receivable	15,000	–0–
Inventory	160,000	–0–
Prepaid expenses	8,000	–0–
Property, plant, and equipment (net)	90,000	–0–
Accounts payable	60,000	–0–
Accrued expenses payable	20,000	–0–

ILLUSTRATION 5-19 Balance Sheet Accounts, Libon Co.

Libon Company's December 31, 2010, income statement and additional information are as follows.

Revenues from sales		$780,000
Cost of goods sold		450,000
Gross profit		330,000
Operating expenses	$160,000	
Depreciation	10,000	170,000
Income before income taxes		160,000
Income tax expense		48,000
Net income		$112,000

Additional Information:
(a) Dividends of $70,000 were declared and paid in cash.
(b) The accounts payable increase resulted from the purchase of merchandise.
(c) Prepaid expenses and accrued expenses payable relate to operating expenses.

Under the **direct method**, companies compute net cash provided by operating activities by **adjusting each item in the income statement** from the accrual basis to the cash basis. To simplify and condense the operating activities section, only major classes of operating cash receipts and cash payments are reported. As Illustration 5-21 shows, the difference between these major classes of cash receipts and cash payments is the net cash provided by operating activities.

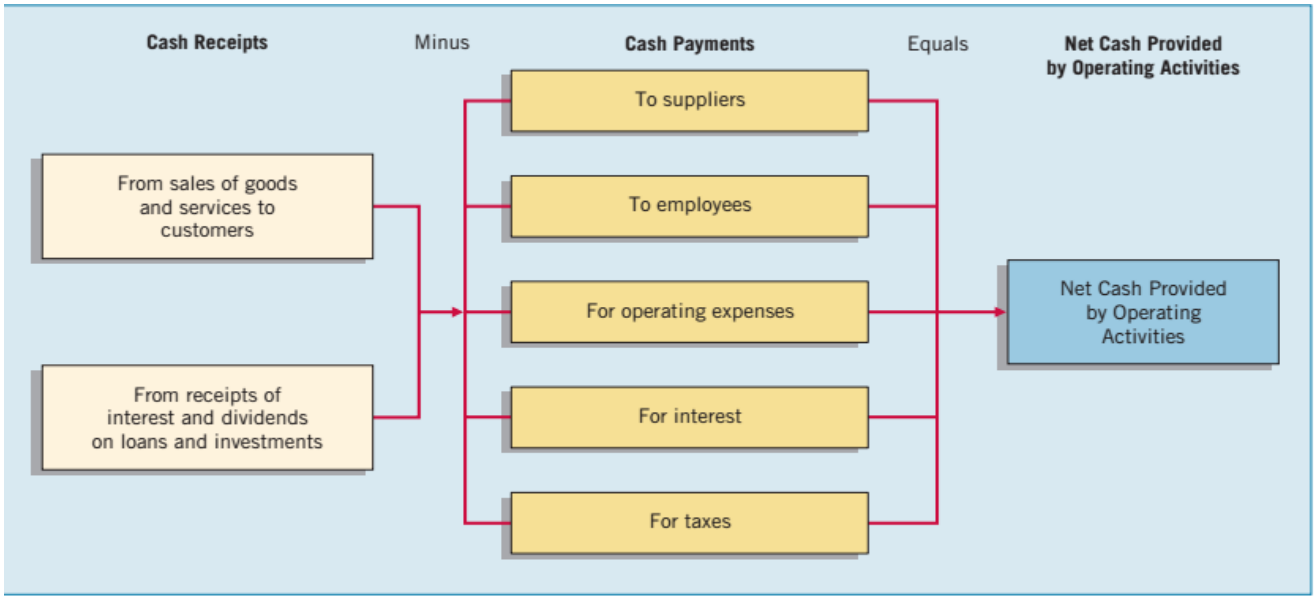


ILLUSTRATION 5-21 Major Classes of Cash Receipts and Payments

An efficient way to apply the direct method is to analyze the revenues and expenses reported in the income statement in the order in which they are listed. The company then determines cash receipts and cash payments related to these revenues and expenses. In the following sections, we present the direct method adjustments for Libon Company in 2010, to determine net cash provided by operating activities.

Cash Receipts from Customers. The income statement for Libon Company reported revenues from customers of $780,000. To determine cash receipts from customers, the company considers the change in accounts receivable during the year.

When accounts receivable increase during the year, revenues on an accrual basis are higher than cash receipts from customers. In other words, operations led to increased revenues, but not all of these revenues resulted in cash receipts. To determine the amount of increase in cash receipts, deduct the amount of the increase in accounts receivable from the total sales revenues. Conversely, a decrease in accounts receivable is added to sales revenues, because cash receipts from customers then exceed sales revenues. For Emig Company, accounts receivable increased $15,000. Thus, cash receipts from customers were $765,000, computed as follows.

Revenues from sales	$780,000
Deduct: Increase in accounts receivable	15,000
Cash receipts from customers	$765,000

Libon could also determine cash receipts from customers by analyzing the Accounts Receivable account as shown below.

Accounts Receivable

1/1/10 Balance	–0–		
		Receipts from customers	765,000
Revenue from sales	780,000		
12/31/10 Balance	15,000		

Illustration 5-22 shows the relationships between cash receipts from customers, revenues from sales, and changes in accounts receivable.

Cash receipts from customers	=	Revenues from sales	+ Decrease in accounts receivable or – Increase in accounts receivable

Cash Payments to Suppliers. Libon Company reported cost of goods sold on its income statement of $450,000. To determine cash payments to suppliers, the company first finds purchases for the year, by adjusting cost of goods sold for the change in inventory. When inventory increases during the year, purchases this year exceed cost of goods sold. As a result, the company adds the increase in inventory to cost of goods sold, to arrive at purchases. In 2010, Emig Company's inventory increased $160,000. The company computes purchases as follows.

Cost of goods sold	$450,000
Add: Increase in inventory	160,000
Purchases	$610,000

After computing purchases, Emig determines cash payments to suppliers by adjusting purchases for the change in accounts payable. When accounts payable increase during the year, purchases on an accrual basis are higher than they are on a cash basis. As a result, it deducts from purchases the increase in accounts payable to arrive at cash payments to suppliers. Conversely, if cash payments to suppliers exceed purchases, Libon adds to purchases the decrease in accounts payable. Cash payments to suppliers were $550,000, computed as follows.

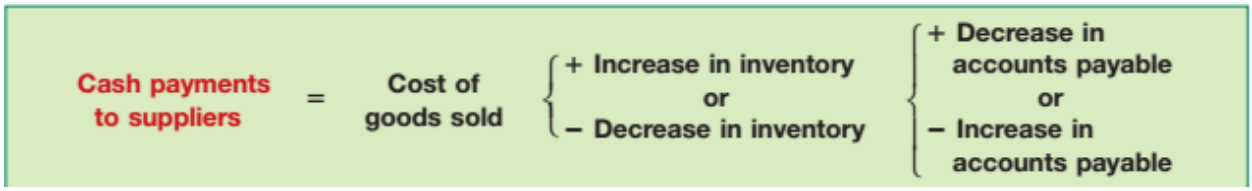
Purchases	$610,000
Deduct: Increase in accounts payable	60,000
Cash payments to suppliers	$550,000

Libon also can determine cash payments to suppliers by analyzing Accounts Payable, as shown below.

Accounts Payable

Payments to suppliers	550,000	1/1/10 Balance	–0–
		Purchases	610,000
12/31/10 Balance	60,000		

Illustration 5-23 shows the relationships between cash payments to suppliers, cost of goods sold, changes in inventory, and changes in accounts payable.



Cash Payments for Operating Expenses. Libon reported operating expenses of $160,000 on its income statement. To determine the cash paid for operating expenses, it must adjust this amount for any changes in prepaid expenses and accrued expenses payable.

For example, when prepaid expenses increased $8,000 during the year, cash paid for operating expenses was $8,000 higher than operating expenses reported on the income statement. To convert operating expenses to cash payments for operating expenses, the company adds to operating expenses the increase of $8,000. Conversely, if prepaid expenses decrease during the year, it deducts from operating expenses the amount of the decrease.

Libon also must adjust operating expenses for changes in accrued expenses payable. When accrued expenses payable increase during the year, operating expenses on an accrual basis are higher than they are on a cash basis. As a result, the company deducts from operating expenses an increase in accrued expenses payable, to arrive at cash payments for operating expenses. Conversely, it adds to operating expenses a decrease in accrued expenses payable, because cash payments exceed operating expenses.

Libon Company's cash payments for operating expenses were $148,000, computed as follows.

Operating expenses	$160,000
Add: Increase in prepaid expenses	8,000
Deduct: Increase in accrued expenses payable	(20,000)
Cash payments for operating expenses	$148,000

The relationships among cash payments for operating expenses, changes in prepaid expenses, and changes in accrued expenses payable are shown in Illustration 5-24.

ILLUSTRATION 5-24 Formula to Compute Cash Payments for Operating Expenses as follows:-

Cash payments for operating expenses	=	Operating expenses	+ Increase in prepaid expense or − Decrease in prepaid expense	+ Decrease in accrued expenses payable or − Increase in accrued expenses payable

Note that the company did not consider depreciation expense, because it is a noncash charge. ***Cash Payments for Income Taxes.*** The income statement for Libon shows income tax expense of $48,000. This amount equals the cash paid. How do we know that? Because the comparative balance sheet indicated no income taxes payable at either the beginning or end of the year.

Summary of Net Cash Flow from Operating Activities—Direct Method The following schedule summarizes the computations illustrated above.

Accrual Basis			Adjustment	Add (Subtract)	Cash Basis
Revenues from sales	$780,000	−	Increase in accounts receivable	$(15,000)	$765,000
Cost of goods sold	450,000	+	Increase in inventory	160,000	
		−	Increase in accounts payable	(60,000)	550,000
Operating expenses	160,000	+	Increase in prepaid expenses	8,000	
		−	Increase in accrued expenses payable	(20,000)	148,000
Depreciation expense	10,000	−	Depreciation expense	(10,000)	–0–
Income tax expense	48,000				48,000
Total expense	668,000				746,000
Net income	$112,000		Net cash provided by operating activities		$ 19,000

Illustration 5-26 shows the presentation of the direct method for reporting net cash flow from operating activities for the Libon Company illustration.

Libon Company

STATEMENT OF CASH FLOWS (PARTIAL)		
Cash flows from operating activities		
Cash received from customers		$765,000
Cash payments:		
To suppliers	$550,000	
For operating expenses	148,000	
For income taxes	48,000	746,000
Net cash provided by operating activities		$ 19,000

If Libon Company uses the direct method to present the net cash flows from operating activities, it must provide in a separate schedule the reconciliation of net income to net cash provided by operating activities. The reconciliation assumes the identical form and content of the indirect method of presentation, as shown below

Libon Company

RECONCILIATION		
Net income		$112,000
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation expense	$ 10,000	
Increase in accounts receivable	(15,000)	
Increase in inventory	(160,000)	
Increase in prepaid expenses	(8,000)	
Increase in accounts payable	60,000	
Increase in accrued expense payable	20,000	(93,000)
Net cash provided by operating activities		$ 19,000

ILLUSTRATION 5-27 Reconciliation of Net Income to Net Cash Provided by Operating Activities

When the direct method is used, the company may present this reconciliation at the bottom of the statement of cash flows or in a separate schedule.

Direct versus Indirect Controversy

The most contentious decision that the FASB faced related to cash flow reporting was choosing between the direct method and the indirect method of determining net cash flow from operating activities. Companies lobbied *against* the direct method, urging adoption of the indirect method. Commercial lending officers expressed to the FASB a strong preference in favor of the direct method. In the next two sections, we consider the arguments in favor of each of the methods.

In Favor of the Direct Method

The principal advantage of the direct method is that **it shows operating cash receipts and payments**. Thus, it is more consistent with the objective of a statement of cash flows—to provide information about cash receipts and cash payments—than the indirect method, which does not report operating cash receipts and payments.

Supporters of the direct method contend that knowledge of the specific sources of operating cash

receipts and the purposes for which operating cash payments were made in past periods is useful in estimating future operating cash flows. Furthermore, information about amounts of major classes of operating cash receipts and payments is more useful than information only about their arithmetic sum (the net cash flow from operating activities). Such information is more revealing of a company's ability (1) to generate sufficient cash from operating activities to pay its debts, (2) to reinvest in its operations, and (3) to make distributions to its owners.

Many companies indicate that they do not currently collect information in a manner that allows them to determine amounts such as cash received from customers or cash paid to suppliers directly from their accounting systems. But supporters of the direct method contend that the incremental cost of determining operating cash receipts and payments is not significant.

In Favor of the Indirect Method

The principal advantage of the indirect method is that **it focuses on the differences between net income and net cash flow from operating activities**. That is, it provides a useful link between the statement of cash flows and the income statement and balance sheet. Many companies contend that it is less costly to adjust net income to net cash flow from operating activities (indirect) than it is to report gross operating cash receipts and payments (direct). Supporters of the indirect method also state that the direct method, which effectively reports income statement information on a cash rather than an accrual basis, may erroneously suggest that net cash flow from operating activities is as good as, or better than, net income as a measure of performance.

Special Rules Applying to Direct and Indirect Methods

Companies that use the direct method are required, at a minimum, to report separately the following classes of operating cash receipts and payments:

Receipts

1. Cash collected from customers (including lessees, licensees, etc.).
2. Interest and dividends received.
3. Other operating cash receipts, if any.

Payments

1. Cash paid to employees and suppliers of goods or services (including suppliers of insurance, advertising, etc.).

2. Interest paid.

3. Income taxes paid.

4. Other operating cash payments, if any.

The FASB encourages companies to provide further breakdowns of operating cash receipts and payments that they consider meaningful. Companies using the indirect method must disclose separately changes in inventory, receivables, and payables in order to reconcile net income to net cash flow from operating activities. In addition, they must disclose, elsewhere in the financial statements or in accompanying notes, interest paid (net of amount capitalized) and income taxes paid. The FASB requires these separate and additional disclosures so that users may approximate the direct method. Also, an acceptable alternative presentation of the indirect method is to report net cash flow from operating activities as a single line item in the statement of cash flows and to present the reconciliation details elsewhere in the financial statements.

CHAPTER SIX

6. ASSET VALUATION FOR FINANCIAL REPORTING

6.1 Basics of valuation

Asset valuation is the process of determining the current value of a company's assets, such as stocks, buildings, equipment, brands, goodwill, etc. This process often happens as part of a wider business valuation, or before you buy, sell or insure an asset. Asset valuation simply pertains to the process to determine the value of a specific property, including stocks, options, bonds, buildings, machinery, or land, that is conducted usually when a company or asset is to be sold, insured, or taken over. The assets may be categorized into tangible and intangible assets. Valuations can be done on either an asset or a liability, such as bonds issued by a company.

Tangible Asset refers to a company's assets that have a physical form, which have been purchased by an organization to produce its products or goods or to provide the services that it offers. Tangible assets can be categorized as either fixed asset, such as structures, land, and machinery, or as a current asset, such as cash. Other examples of assets are company vehicles, IT equipment, investments, payments, and on-hand stocks.

To compute the net tangible assets of a company:

- The company needs to look at its balance sheet and identify tangible and intangible assets.
- From the total assets, deduct the total value of the intangible assets.
- From what is left, deduct the total value of the liabilities. What is left are the net tangible assets or net asset value.

Consider the following simple example:

- Balance sheet total assets: **$5 million**
- Total intangible assets: **$1.5 million**

- Total liabilities: **$1 million**
- Total tangible assets: **$2.5 million**

In the example above, the total assets of Company ABC equal $5 million. When the total intangible assets of $1.5 million are deducted, that leaves $3.5 million. After the total liabilities are deducted, which is another $1 million, only $2.5 million is left, which is the value of the net tangible assets.

Intangible asset are assets that take no physical form, but still provide a future benefit to the company. They may include patents, logos, franchises, and trademarks.

Say, for example, a multinational company with assets of $15 billion goes bankrupt one day, and none of its tangible assets are left. It can still have value because of its intangible assets, such as its logo and patents, that many investors and other companies may be interested in acquiring.

Asset-based valuation allows you to calculate a business's net worth by adding up the current value of its assets less the value of its liabilities.

How to value business assets?

The first step in asset valuation is to understand the different types of business assets that you own. Look at your resources and create an inventory of all your:

- current assets
- fixed assets
- intangible assets, including intellectual property (IP)

Consider both your tangible and intangible assets. It can help to evaluate different types of assets separately.

How to calculate the value of tangible assets?

The starting point for determining the value of tangible assets is the **net book value (NBV)**, which is the value of the assets stated in the accounts. This method suits mainly stable businesses

with significant tangible assets. When valuing tangible assets, you can adjust the NBV figures to take into account economic realities such as:

- property or other fixed assets which have changed in value
- old assets or stock which would have to be sold at a discount
- bad debts to the business

The value of many kinds of tangible assets - like machinery and equipment - often **depreciates** over time due to wear and tear. You will need to consider this when valuing such assets. See more on depreciation of assets.

Besides age and usage, other factors can affect the value of assets. One example is bankruptcy, where asset liquidation value will typically be lower than its fair market value.

How to calculate the value of intangible assets?

Intangible assets often give businesses their competitive advantage. However, because they have no physical characteristics, their value can be hard to determine.

A common way of **valuing intangible assets**, including Intangible property but excluding goodwill, is by using either:

- **market approach** - based on market evidence of what third parties have paid for comparable intangible assets (in practice, this method can be difficult to apply)
- **income approach** - assumes that the value of an asset is the present value of future earnings from the asset
- **cost approach** - based on estimating the costs of constructing or acquiring a new intangible asset that is of more or less the same use as the existing one

These methods look at things like comparable transactions, excess earnings, relief from royalty, replacement or reproduction costs and simulation analysis.

You can generally determine the value of goodwill based on the calculation of a residual value, by subtracting the net value of assets from the value of equity of the business.

Unlike tangible assets, which depreciate over time, intangible assets (and intellectual property in particular) often **increase in value** with time. However, accountancy rules don't allow for such an increase in value to be included in the balance sheet. Consider seeking professional advice or consult an accountant when valuing intangible assets.

6.2 Overview of International Valuation Standards (IVS)

The International Valuation Standards Council (IVSC) is an independent, not-for-profit organisation committed to advancing quality in the valuation profession. Our primary objective is to build confidence and public trust in valuation by producing standards and securing their universal adoption and implementation for the valuation of assets across the world. We believe that International Valuation Standards (IVS) are a fundamental part of the financial system, along with high levels of professionalism in applying them.

Valuations are widely used and relied upon in financial and other markets, whether for inclusion in financial statements, for regulatory compliance or to support secured lending and transactional activity. The International Valuation Standards (IVS) are standards for undertaking valuation assignments using generally recognized concepts and principles that promote transparency and consistency in valuation practice. The IVSC also promotes leading practice approaches for the conduct and competency of professional valuers. The IVSC Standards Board is the body responsible for setting the IVS. The Board has autonomy in the development of its agenda and approval of its publications. In developing the IVS, the Board:

- Follows established due process in the development of any new standard, including consultation with stakeholders (valuers, users of valuation services, regulators, valuation professional organizations, etc) and public exposure of all new standards or material alterations to existing standards,
- Liaises with other bodies that have a standard-setting function in the financial markets,
- Conducts outreach activities including round-table discussions with invited constituents and targeted discussions with specific users or user groups.

The objective of the IVS is to increase the confidence and trust of users of valuation services by establishing transparent and consistent valuation practices. A standard will do one or more of the

following:

- identify or develop globally accepted principles and definitions,
- identify and promulgate considerations for the undertaking of valuation assignments and the reporting of valuations,
- identify specific matters that require consideration and methods commonly used for valuing different types of assets or liabilities.

The IVS consist of mandatory requirements that must be followed in order to state that a valuation was performed in compliance with the IVS. Certain aspects of the standards do not direct or mandate any particular course of action, but provide fundamental principles and concepts that must be considered in undertaking a valuation. The IVSC Standards Boards have taken into account the following core principles when drafting the International Valuation Standards.

Core Principles of Valuation Standard Setting

1. **Purpose (Objective)** The purpose of valuation standards is to promote and maintain a high level of public trust in valuation practice by establishing appropriate requirements for valuers.

2. **Valuation Standards** Valuation Standards should be principle based and adequately address the development of a credible opinion of value and the communication of that opinion to the intended user(s).

3. **Development and Revisions of Standards** are to be created and revised, when necessary, by way of a transparent process after appropriate exposure.

4. **Jurisdiction** Departures from the standards to comply with legislative and regulatory requirements that are in conflict with the standards are allowed.

Core Principles of Valuation

1. Ethics Valuers must follow the ethical principles of integrity, objectivity, impartiality, confidentiality, competence and professionalism to promote and preserve the public trust.

2. Competency At the time the valuation is submitted, valuers must have the technical skills and knowledge required to appropriately complete the valuation assignment.

3. Compliance Valuers must disclose or report the published valuation standards used for the assignment and comply with those standards.

4. Basis (ie, Type or Standard) of Value Valuers must select the basis (or bases) of value appropriate for the assignment and follow all applicable requirements. The basis of value (or bases) must be either defined or cited.

5. Date of Value (ie, Effective Date/Date of Valuation) Valuers must disclose or report the date of value that is the basis of their analyses, opinions or conclusions. Valuers must also state the date they disclose or report their valuation.

6. Assumptions and Conditions Valuers must disclose significant assumptions and conditions specific to the assignment that may affect the assignment result.

7. Intended Use Valuers must disclose or report a clear and accurate description of the intended use of the valuation.

8. Intended User(s) Valuers must disclose or report a clear and accurate description of the intended user(s) of the valuation.

9. Scope of Work Valuers must determine, perform, and disclose or report a scope of work that is appropriate for the assignment that will result in a credible valuation.

10. Identification of Subject of Valuation Valuers must clearly identify what is being valued.

11. Data Valuers must use appropriate information and data inputs in a clear and transparent manner so as to provide a credible valuation.

12. Valuation Methodology Valuers must properly use the appropriate valuation methodology(ies) to develop a credible valuation.

13. Communication of Valuation Valuers must clearly communicate the analyses, opinions and conclusions of the valuation to the intended user(s).

14. Record Keeping Valuers must keep a copy of the valuation and a record of the valuation work performed for an appropriate period after completion of the assignment.

6.3 Valuation approaches

Consideration must be given to the relevant and appropriate valuation approaches. One or more valuation approaches may be used in order to arrive at the value in accordance with the basis of value. The three approaches described and defined below are the main approaches used in valuation. They are all based on the economic principles of price equilibrium, anticipation of

benefits or substitution.

The principal valuation approaches are: (a) market approach, (b) income approach, and (c) cost approach. Each of these valuation approaches includes different, detailed methods of application. The goal in selecting valuation approaches and methods for an asset is to find the most appropriate method under the particular circumstances. No one method is suitable in every possible situation. The selection process should consider, at a minimum:

(a) The appropriate basis (es) of value and premise(s) of value, determined by the terms and purpose of the valuation assignment,

(b) The respective strengths and weaknesses of the possible valuation approaches and methods,

(c) The appropriateness of each method in view of the nature of the asset, and the approaches or methods used by participants in the relevant market, and

(d) The availability of reliable information needed to apply the method(s).

Valuers are not required to use more than one method for the valuation of an asset, particularly when the valuer has a high degree of confidence in the accuracy and reliability of a single method, given the facts and circumstances of the valuation engagement. However, valuers should consider the use of multiple approaches and methods and more than one valuation approach or method should be considered and may be used to arrive at an indication of value, particularly when there are insufficient factual or observable inputs for a single method to produce a reliable conclusion.

Where more than one approach and method is used, or even multiple methods within a single approach, the conclusion of value based on those multiple approaches and/or methods should be reasonable and the process of analysing and reconciling the differing values into a single conclusion, without averaging, should be described by the valuer in the report.

6.3. 1 Market approach

The market approach provides an indication of value by comparing the asset with identical or comparable (that is similar) assets for which price information is available. The market approach

should be applied and afforded significant weight under the following circumstances:

(a) The subject asset has recently been sold in a transaction appropriate for consideration under the basis of value,

(b) The subject asset or substantially similar assets are actively publicly traded, and/or

(c) There are frequent and/or recent observable transactions in substantially similar assets.

Although the above circumstances would indicate that the market approach should be applied and afforded significant weight, when the above criteria are not met, the following are additional circumstances where the market approach may be applied and afforded significant weight. When using the market approach under the following circumstances, a valuer should consider whether any other approaches can be applied and weighted to corroborate the value indication from the market approach:

(a) Transactions involving the subject asset or substantially similar assets are not recent enough considering the levels of volatility and activity in the market.

(b) The asset or substantially similar assets are publicly traded, but not actively.

(c) Information on market transactions is available, but the comparable assets have significant differences to the subject asset, potentially requiring subjective adjustments.

(d) Information on recent transactions is not reliable (ie, hearsay, missing information, synergistic purchaser, not arm's-length, distressed sale, etc).

(e) The critical element affecting the value of the asset is the price it would achieve in the market rather than the cost of reproduction or its income-producing ability.

The heterogeneous nature of many assets means that it is often not possible to find market evidence of transactions involving identical or similar assets. Even in circumstances where the market approach is not used, the use of market-based inputs should be maximized in the application of other approaches (eg, market-based valuation metrics such as effective yields and rates of return).

When comparable market information does not relate to the exact or substantially the same asset, the valuer must perform a comparative analysis of qualitative and quantitative similarities and differences between the comparable assets and the subject asset. It will often be necessary to

make adjustments based on this comparative analysis. Those adjustments must be reasonable and valuers must document the reasons for the adjustments and how they were quantified. The market approach often uses market multiples derived from a set of comparables, each with different multiples. The selection of the appropriate multiple within the range requires judgment, considering qualitative and quantitative factors.

6.3. 2 Income approach

The income approach provides an indication of value by converting future cash flow to a single current value. Under the income approach, the value of an asset is determined by reference to the value of income, cash flow or cost savings generated by the asset.

The income approach should be applied and afforded significant weight under the following circumstances:

A. The income-producing ability of the asset is the critical element affecting value from a participant perspective, and/or

B. Reasonable projections of the amount and timing of future income are available for the subject asset, but there are few, if any, relevant market comparables.

Although the above circumstances would indicate that the income approach should be applied and afforded significant weight, the following are additional circumstances where the income approach may be applied and afforded significant weight. When using the income approach under the following circumstances, a valuer should consider whether any other approaches can be applied and weighted to corroborate the value indication from the income approach:

(a) The income-producing ability of the subject asset is only one of several factors affecting value from a participant perspective,

(b) There is significant uncertainty regarding the amount and timing of future income-related to the subject asset,

(c) There is a lack of access to information related to the subject asset (for example, a minority owner may have access to historical financial statements but not forecasts/budgets), and/or

(d) The subject asset has not yet begun generating income, but is projected to do so.

A fundamental basis for the income approach is that investors expect to receive a return on their

investments and that such a return should reflect the perceived level of risk in the investment. Generally, investors can only expect to be compensated for systematic risk (also known as "market risk" or "undiversifiable risk").

6.3. 3 Cost approach

The cost approach provides an indication of value using the economic principle that a buyer will pay no more for an asset than the cost to obtain an asset of equal utility, whether by purchase or by construction, unless undue time, inconvenience, risk or other factors are involved. The approach provides an indication of value by calculating the current replacement or reproduction cost of an asset and making deductions for physical deterioration and all other relevant forms of obsolescence.

The cost approach should be applied and afforded significant weight under the following circumstances:

(a) Participants would be able to recreate an asset with substantially the same utility as the subject asset, without regulatory or legal restrictions, and the asset could be recreated quickly enough that a participant would not be willing to pay a significant premium for the ability to use the subject asset immediately,

(b) The asset is not directly income-generating and the unique nature of the asset makes using an income approach or market approach unfeasible, and/or

(c) The basis of value being used is fundamentally based on replacement cost, such as replacement value.

Although the circumstances would indicate that the cost approach should be applied and afforded significant weight, the following are additional circumstances where the cost approach may be applied and afforded significant weight. When using the cost approach under the following circumstances, a valuer should consider whether any other approaches can be applied and weighted to corroborate the value indication from the cost approach:

(a) Participants might consider recreating an asset of similar utility, but there are potential legal

or regulatory hurdles or significant time involved in recreating the asset,

(b) When the cost approach is being used as a reasonableness check to other approaches (for example, using the cost approach to confirm whether a business valued as a going-concern might be more valuable on a liquidation basis), and/or

(c) The asset was recently created, such that there is a high degree of reliability in the assumptions used in the cost approach. 60.4. The value of a partially completed asset will generally reflect the costs incurred to date in the creation of the asset (and whether those costs contributed to value) and the expectations of participants regarding the value of the property when complete, but consider the costs and time required to complete the asset and appropriate adjustments for profit and risk.

6.4 Valuation Report

An inventory or asset valuation is a financial value equivalent to the goods or assets in a company's possession at the end of an accounting period. It accounts for the costs incurred to acquire the stock and prepare it for sale, such as supplier and shipping costs alongside warehousing operations costs. Since inventory is a company's biggest asset, valuation is critical. It allows businesses to record a number on their balance sheets tied to their most significant business cost.

While it has many uses, in accounting specifically, valuation lets you understand a lot about your company's profitability. You'll determine your stock turnover ratio and make better purchasing decisions with the help of inventory valuation. An accurate valuation report can inform useful insights such as:

- Cost of goods sold (COGS)
- Gross profit
- Net income
- Current value of unsold inventory
- Estimated shareholders' or owner's equity based on current business assets
- Accurate values for income statements
- Estimated profitability as supplier costs fluctuate

An inventory valuation report is a document that lists your total cost or value of inventory. It presents in-stock items line by line, with columns showing how many are in stock and the current value used for accounting purposes.

Your inventory valuation summary will also highlight all the changes made to your stock during the reporting period, including the amounts sold, transferred and replenished. Inventory valuation reports cover specific date ranges. Many businesses use them for quarterly and yearly accounting periods.

In Finale Inventory, you have the choice between standard accounting costs or average accounting costs to calculate total inventory value. Average accounting costs populate automatically based on the purchasing price in your purchase order records. Standard accounting costs are manual entries you can set and maintain values for depending on your business needs.