Ind AS
Case Study

Capital Maintenance under Ind AS
Practical Application

References:

12	Income Taxes
32	Financial instruments: Presentation
36	Impairment of Assets
109	Financial Instruments

CASE STUDY

Capital Maintenance: Practical Application

Learning outcome

This Case Study aims to explain the concept of capital maintenance and the key elements which are necessary for an entity to continue its operations for the foreseeable future. The concept of capital maintenance states that a profit is the residual revenue of a reporting period after the initial value of the capital of an entity has been restored. The point to note here is that this concept is concerned with how an entity **defines the capital** that it seeks to maintain. It is thus necessary to be able to determine the value of that capital in order to calculate profit and this is where the capital maintenance concept is less than completely clear in its practical application.

Introduction

Capital maintenance is important for an entity not only to prevent future setbacks, but also to estimate its going concern value. The common sense view of income of an entity is the increase in its wealth during a reporting period, which is the amount that could be paid out to shareholders at the end of the reporting period, while still leaving the entity as well off as it was at the beginning of the reporting period. Therefore, the entity first measures the resources required to maintain invested capital at its original level. Any amount above (below) of this level of maintained capital is profit (loss).

Whenever the question of capital maintenance arises, it is spoken of in two different senses –

- **Physical capital maintenance** Under this concept, capital is defined in terms of the physical productive capacity. Therefore, capital is maintained only if the physical productive capacity of the entity at the end of the reporting period is the same as the physical productive capacity at the beginning of the period. In effect, profit (loss) represents the increase (decrease) in that capital over the reporting period.
- **Financial capital maintenance** Under this concept, capital is defined in terms of nominal monetary units. Therefore, if the net assets of an entity are the same at the end of the reporting period as they were at the beginning, the financial capital has been maintained. In effect, profit (loss) represents the increase (decrease) in nominal money capital over the reporting period.

Therefore, before applying the above concepts, we need to remember the following:

- For *physical capital maintenance* – physical capacity is hard to define both conceptually and practically.
- For *financial capital maintenance* – the problem is how to define capital in this context.

To maintain the capital intact, the profit (loss) for a reporting period should be the difference between the **income that should have been received** and **expenses that should have been paid.**

This Case Study relates to the following:

1. Conceptual Framework for Financial Reporting;
2. Ind AS 12 – Income taxes;
3. Ind AS 32 – Financial instruments: Presentation;
4. Ind AS 36 – Impairment of assets; and
5. Ind AS 109 – Financial instruments

Case study 1: Physical capital maintenance

On 1 April 20x1, Kane Ltd purchased an asset for CU 100. The estimated useful life of the asset is 4 years with no residual value. Kane Ltd charges depreciation under straight-line method. As per income tax rules, depreciation is allowed @ 20% per year on cost of the asset. During March 20x3, impairment testing was carried out and the recoverable amount of the asset is found to be CU 40. Profit before depreciation of Kane Ltd is CU 100 per year from 20x1-x2 to 20x5-x6. Income tax rate is 40%.

As per *Conceptual Framework for Financial Reporting*, an asset is not recognised in the Balance Sheet when expenditure has been incurred for which it is considered improbable that economic benefits will flow to the entity beyond the current reporting period. Instead, such an event results in the recognition of an expense in the Statement of Profit and Loss.

An impairment loss is the amount by which the carrying amount of an asset exceeds its recoverable amount, ie, higher of an asset's *fair value* [1] *less costs of disposal* [2] and *value in use* [3]. Therefore, when the recoverable amount of an asset is *less* than its carrying amount, the carrying amount of the asset shall be reduced to its recoverable amount. This reduction is an impairment loss which shall be recognised immediately in profit or loss.

[1] *It is the price that would be received to sell an asset in an orderly transaction between market participants at the measurement date.*

[2] *These are incremental costs directly attributable to the disposal of an asset, excluding finance costs and income tax expenses.*

[3] *It is the present value of the future cash flows expected to be derived from an asset.*

Kane Ltd

Balance Sheet as at 31 March (Extract)

	NOTES	20x2	20x3	20x4	20x5
Assets					
Non-current assets					
Property, plant and equipment	**1**	75	40	20	–
Deferred tax asset	**1**	2	8	8	8

Statement of Profit and Loss for the year ended 31 March (Extract)

	NOTES	20x2	20x3	20x4	20x5	20x6
Profit before depreciation		100	100	100	100	100
Depreciation		25	25	20	20	–
Impairment		– 25	10 35	– 20	– 20	–
Accounting Profit		75	65	80	80	100
Tax expense	**3**	30	26	32	32	40
Profit for the period		45	39	48	48	60

The future economic benefits embodied in an asset is the potential to contribute, directly or indirectly, to the flow of cash and cash equivalents to the entity. The recognition of an impairment loss in profit and loss represents the application of physical capital maintenance. **Without the recognition of an impairment loss, the profit for the period will show higher than what it actually is. As a result, distribution to the owners might be higher than what the entity could afford.**

NOTES

As per Ind AS 12, in regard to an asset, the temporary difference is the difference between the carrying amount of the asset and its tax base, which is the original cost of the asset *less* all deductions in respect of that asset permitted by taxation authorities in determining taxable profits of the current and prior periods. A temporary difference arises when an expense in included in determining accounting profit in one reporting period but is included in determining taxable profit in a different reporting period, eg, depreciation used in determining taxable profit may differ from that used in determining accounting profit. If the tax base of the asset is more than its carrying amount or the tax depreciation for a reporting period is *less* than accounting depreciation, deductible temporary difference arises and results in a deferred tax asset.

From the above, it can be comprehended that recognition of an impairment loss (which is not deductible for tax purposes) creates a deferred tax asset, except where there is no existing deferred tax liability.

(1) Carrying Amount (CA) and Tax Base (TB) of the Asset

	20x2		20x3		20x4		20x5		20x6	
	CA	TB	CA	TB	CA	TB	CA	TB	CA	TB
Gross Block	100	100	100	100	100	100	100	100	–	100
Accumulated Depreciation and impairment	25	20	60	40	80	60	100	80	–	100
Carrying amount/Tax base	**75**	**80**	**40**	**60**	**20**	**40**	–	**20**	–	–
Deferred tax asset (DTA) (TB – CA) x 40%	(80 – 75) X 40% = 2		(60 – 40) X 40% = 8		(40 – 20) X 40% = 8		(20 – 0) X 40% = 8		DTA Reversed	
Deferred tax income	**2**		**6 (8 – 2)**		**0 (8 – 8)**		**0 (8 – 8)**		–	

(2) Current Tax Expense

	20x2	20x3	20x4	20x5	20x6
Accounting profit	75	65	80	80	100
Add back Depreciation and impairment	25	35	20	20	–
	100	100	100	100	100
Deduct Depreciation allowed	20	20	20	20	20
Taxable Profit	80	80	80	80	80
Current tax expense at 40%	**32**	**32**	**32**	**32**	**32**

(3) Tax Expense

Year	Heads of Account	NOTES	Dr	Cr	Balance
20x2					
Mar 31	Current tax expense	**2**	32		32
	Deferred tax income	**1**		2	30
	Profit or loss			30	–
20x3					
Mar 31	Current tax expense	**2**	32		32
	Deferred tax income	**1**		6	26
	Profit or loss			26	–
20x4					
Mar 31	Current tax expense	**2**	32		32
	Profit or loss			32	–
20x5					
Mar 31	Current tax expense	**2**	32		32
	Profit or loss			32	–
20x6					
Mar 31	Current tax expense	**2**	32		32
	Deferred tax asset	**1**	8		40
	Profit or loss			40	–

Case Study 2 (Financial capital maintenance)

On 1 April 20x1, Kane Ltd has 100 shares of CU 10 each and issues 100 zero-coupon convertible bonds of CU 10 each. Transaction costs are CU 50. These bonds are to be converted into ordinary shares on 31 March 20x4. The profit of Kane Ltd from 20x1-x2 to 20x3-x4 is CU 300 per year. Interest rate without the conversion feature (ie, effective interest rate) is 10%. Income tax rate is 40%.

A zero-coupon convertible bond is measured on initial recognition at the amount of net proceeds, net of transaction costs (ie, CU 1,000 – CU 50 = CU 950). Since the liability component of the zero-coupon convertible bond is measured at a discount to the amount convertible on maturity, the present value at effective interest rate of the zero-coupon convertible bond is:

[(CU 1,000 x 0.751[1]) – CU 50] = CU 701

[1] Present value of CU 1 payable after 3 years at an interest of 10%.

Present Value and Unwinding of Discount of Zero-coupon Convertible Bonds (figures in CU)

Year	Opening value at effective interest rate of 10%	Finance cost at effective interest of 12.5% [1]
20x1-x2	1,000 x 0.751 = 751	701[2] x 0.125 = 87
20x2-x3	1,000 x 0.826 = 826	788[3] x 0.125 = 99
20x3-x4	1,000 x 0.909 = 909	887[4] x 0.125 = 113

[1] The impact of transaction costs increases the effective interest rate to 12.5%

[2] (751 – 50)

[3] (701 + 87)

[4] (788 + 99)

JOURNAL (all figures are in CU)

Initial recognition

20x1

Apr 1

• Transaction costs	50	
Cash		50
• Cash	1,000 (100 x 10)	
Zero-coupon convertible bonds		1,000
• Zero-coupon convertible bonds	299 (1,000 – 701)	
Transaction costs		50
Equity component of zero-coupon convertible bonds		149 [(950 – 701) x 60%]
Deferred tax liability		100 [(950 – 701) x 40%]

Subsequent measurement

20x2

Mar 31

• Finance cost	87 (12.5% of 701)	
Zero-coupon convertible bonds		87
• Deferred tax liability	15 [100 – {(1,000 – 788) x 40%}]	
Tax expense		15
• Equity component of zero-coupon convertible bonds	43 [(87 – 16) x 60%]	
Retained earnings		43

20x3

Mar 31

• Finance cost	99 (12.5% of 788)	
Zero-coupon convertible bonds		99
• Deferred tax liability	40 [85 – {(1,000 – 887) x 40%}]	
Tax expense		40
• Equity component of zero-coupon convertible bonds	50 [(99 – 16) x 60%]	
Retained earnings		50

20x4

Mar 31

• Finance cost	113 (12.5% of 887)	
Zero-coupon convertible bonds		113
• Deferred tax liability	45 (85 – 40)	
Tax expense		45
• Equity component of zero-coupon convertible bonds	56 [(113 – 18) x 60%]	
Retained earnings		56

Conversion at maturity

• Zero-coupon convertible bonds	1,000	
Share capital		1,000

Zero-coupon Convertible Bonds

Date	Heads of Account	Dr	Cr	Balance
20x1				
Apr 1	Cash		1,000	1,000
	Transaction costs	50		950
	Equity component of convertible bonds	149[1]		801
	Deferred tax liability	100[2]		701
20x2				
Mar 31	Finance cost		87[3]	788
20x3				
Mar 31	Finance cost		99[4]	887
20x4				
Mar 31	Finance cost		113[5]	1,000
	Share capital	1,000		–

[1] 60% of (950 – 701) [2] 40% of (950 – 701) [3] 12.5% of 701 [4] 12.5% of 788 [5] 12.5% of 887

Change in Effective Interest Rate

Though the effective interest rate is 10%, the impact of transaction costs increases the effective interest rate to 12.5%. This 12.5% rate is calculated in order to convert the present value of the convertible bonds from CU 701 to the convertible amount of CU 1,000 at the end of March 20x4. In effect, this rate is applied to determine the finance cost of each period during the life of the bond.

Kane Ltd

Balance Sheet as at 31 March (Extract)

	NOTES	20x2	20x3	20x4
Equity and Liabilities				
Equity				
Share Capital		1,000	1,000	2,000
Equity component of zero-coupon convertible bonds		106	56	–
Non-current liabilities				
Zero-coupon convertible bonds		788	887	–
Deferred tax liability	**2**	85	45	–

Statement of Profit and Loss for the year ended 31 March (Extract)

	NOTES	20x2	20x3	20x4
Profit before finance cost		300	300	300
Finance cost		87	99	113
Accounting Profit		213	201	187
Tax Expense	**3**	85	80	75
Profit for the period		**128**	**121**	**112**

Kane Ltd, the issuer of zero-coupon convertible bonds, has no present or future obligation to pay interest, but has a future commitment to convert the bonds into ordinary shares after the end of a specified period ie, on 31 March 20x4. The recognition of finance cost (which is notional and not real) in profit or loss represents the application of financial capital maintenance. **Without the recognition of finance cost, the profit for the period will show higher than what it actually is. As a result, there is a risk that dividends might be higher than Kane Ltd could afford.**

Statement of Changes in Equity for the year ended 31 March (Extract)

	20x2	20x3	20x4
Equity			
Equity component of zero-coupon convertible bonds			
Balance bf	149	106	56
Transferred to retained earnings	43[1]	50[2]	56[3]
Balance cf	**106**	**56**	–

[1] [60% of (87 – 16)] [2] [60% of (99 – 16)] [3] [60% of (113 – 18)]

Effective interest rate for amortisation of transaction costs

Transaction costs of CU 50 are initially deducted from the fair value of the bond. Thereafter, transaction costs are amortised at an effective interest rate of 1.7%, which is calculated to convert CU 950 to CU 1,000 at the end of March 20x4.

NOTES

(1) Current Tax Expense

	20x2	20x3	20x4
Accounting profit	213	201	187
Add Finance cost	87	99	113
	300	300	300
Deduct Transaction costs	50[1]	–	–
Taxable Profit	250	300	300
Current tax expense at 40%	**100**	**120**	**120**

[1] The transaction costs are deducted for tax purposes in the period when the bond is first recognised.

A taxable temporary difference arises, and results in a deferred tax liability (DTL), when the carrying amount (CA) of the zero-coupon convertible bonds is less than its tax base (TB).

(2) Deferred Tax Liability

Date	Zero-coupon convertible bonds		DTL = (TB – CA) x Income Tax rate				
	CA	TB	Amount	HOA [1]	Dr	Cr	Balance
20x1							
Apr 1	701	950	(950 – 701) x 40%	ZCCB [2]		100	100
20x2							
Mar 31	788	1,000	(1,000 – 788) x 40%	TE [3]	15		85
20x3							
Mar 31	887	1,000	(1,000 – 887) x 40%	TE [3]	40		45
20x4							
Mar 31	1,000	1,000	(1,000 – 1,000) x 40%	TE [3]	45		–

[1] HOA – Heads of Account

[2] ZCCB – Zero-Coupon Convertible Bonds

[3] TE – Tax Expense

(3) Tax expense

Date	Heads of Account	NOTES	Dr	Cr	Balance
20x2					
Mar 31	Current tax expense	**1**	100		100
	Deferred tax liability	**2**		15	85
	Profit or loss			85	–
20x3					
Mar 31	Current tax expense	**1**	120		120
	Deferred tax liability	**2**		40	80
	Profit or loss			80	–
20x4					
Mar 31	Current tax expense	**1**	120		120
	Deferred tax liability	**2**		45	75
	Profit or loss			75	–

Conclusion

Maintenance of capital by an entity is of utmost importance in order for it to survive. If it does not keep its capital optimum, by way of, say, distribution of dividends higher than it can afford to, it is eating into its own capital. Every entity should make an effort to ensure that the capital is not eroded. The selection of the appropriate concept of capital (physical or financial) by an entity should be based on the needs of the users of its financial statements, because the concept chosen indicates the goal to be attained in determining profit (loss) for a reporting period. Thus, a physical concept of capital maintenance should be used if the users are primarily concerned with the operating capability of the entity. Likewise, if the main concern of users is with the maintenance of nominal capital invested or the purchasing power of invested capital, a financial concept of capital maintenance should be adopted.