Workshop Outline and Learning Methodologies

Session	Methodologies	Chapters covered	Student Notes
Workshop 1			
1. Introduction	• Presentation • Group discussion		
2. Property related standards	• Case study • Group discussion	Ch. 4, 5, 8, 9 and 16	Pg. 1 – 20
3. Resolving accounting issues	• Case study • Group discussion	Ch. 7, 10, 21 and 22	Pg. 21 – 39
4. Wrap up	• Presentation • Group discussion		
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9. Conclusion	• Presentation • Group discussion		

CPA Hong Kong Institute of Certified Public Accountants 香港會計師公會

Property related standards – recognition

Case study 1

DEF is a company with a large property portfolio, with a financial year ended 31 December 2010. One of its properties is a shopping centre which is split into 20 separate equally-sized retail units, which are rented out. DEF provides ancillary services in relation to the rental units, such as cleaning and security, but these costs are considered insignificant in the context of the rental arrangements.

DEF is a wholly owned subsidiary of HCO, a holding company with many subsidiaries. On 1 January 2010, HCO acquired 100% of the share capital of NSB.

NSB is a retail company, and on 1 January 2010 it entered into a rental arrangement with DEF. Under the terms of the arrangement, NSB would rent one of the retail units in DEF's shopping centre on a 5 year lease with a 3 month initial rent-free period. The lease can be extended at the end of the 5 year period, and rent payable to DEF comprises a fixed element, and a variable element which is related to the sales made by the lessee.

Information relevant to the shopping centre is as follows:

- Carrying value 1 January 2010 HK$125,000,000
- Fair value 31 December 2010 HK$155,000,000
- Costs of ancillary services HK$1,250,000

As all 20 units are of the same size and condition, both carrying value and fair value may be apportioned equally between them.

DEF also owns the following properties:

A leisure complex which comprises 15 units rented out to restaurants and bars. 8 of these units are currently vacant while new tenants are being sought.

An amusement park, which is rented out. The amusement park contains a number of further assets owned by DEF, including buildings, fairground rides, floodlight towers (which enable the park to stay open at night), and health and safety equipment.

Required

Using the information provided:

(i) determine which accounting standards are relevant,
(ii) determine the nature of each property, and
(iii) determine what recognition criteria should be used.

Discussion points

Property-related standards – recognition

Case study 1 – DEF

What are the issues?

DEF owns a shopping centre which is rented out in 20 separate retail units. One unit is now leased to a fellow subsidiary of DEF.

(a) Does the shopping centre qualify to be recognised as an investment property?
(b) What valuation bases are available for the property?
(c) How does recognition differ at group level?

DEF also owns 3 other properties.

(d) Do these properties qualify to be recognised as investment properties? If not, which accounting standards should be applied?

Which accounting standards should be used?

HKAS 40: Investment property

What are the requirements of the accounting standards?

Investment property is property (land or a building – or part of a building – or both) held (by the owner or by the lessee under a finance lease) to earn rentals or for capital appreciation or both, rather than for:

(a) use in the production or supply of goods or services or for administrative purposes
(b) sale in the ordinary course of business.

Owner-occupied property is property held by the owner (or by the lessee under a finance lease) for use in the production or supply of goods or services or for administrative purposes.

(HKAS 40.5, LP Chapter 5, Section 1.1)

The standard provides the following examples of investment properties:

(a) Land held for long-term capital appreciation rather than for short-term sale in the ordinary course of business.

(b) Land held for a currently undetermined future use.

(c) A building owned by the reporting entity (or held by the entity under a finance lease) and leased out under an operating lease.

(d) A building that is vacant but held to be leased out under one or more operating leases.

(e) Property that is being constructed or developed for future use as investment property.

(HKAS 40.8, LP Chapter 5, Section 1.1)

(f) A building held by an entity and leased to a parent or another subsidiary. Note, however, that while this is regarded as an investment property in the individual entity's financial statements, in the consolidated financial statements this property will be regarded as owner-occupied (because it is occupied by the group) and will therefore be treated in accordance with HKAS 16.

(HKAS 40.15, LP Chapter 5, Section 1.1)

Some properties comprise a portion that is held to earn rentals or for capital appreciation and another portion that is held for use in the production or supply of goods or services or for administrative purposes. If these portions could be sold separately (or leased out separately under a finance lease) an entity accounts for the portions separately. If the portions could not be sold separately, the property is investment property only if an insignificant portion is held for use in the production or supply of goods or services or for administrative purposes.

(HKAS 40.10, LP Chapter 5, Section 1.1)

In some cases, an entity provides ancillary services to the occupants of a property it holds. An entity treats such a property as investment property if the services are insignificant to the arrangement as a whole. An example is when the owner of an office building provides security and maintenance services to the lessees who occupy the building.

(HKAS 40.11)

An entity does not recognise in the carrying amount of an investment property the costs of the day-to-day servicing of such a property. Rather, these costs are recognised in profit or loss as incurred. Costs of day-to-day servicing are primarily the cost of labour and consumables, and may include the cost of minor parts. The purpose of these expenditures is often described as the repairs and maintenance of the property.

(HKAS 40.18)

An entity shall choose as its accounting policy either the fair value model or the cost model and shall apply that policy to all of its investment property.

(HKAS 40.30, LP Chapter 5, Section 1.4)

In determining the carrying amount of investment property under the fair value model of investment property, an entity does not double-count assets or liabilities that are recognised as separate assets or liabilities. For example equipment such as lifts or air-conditioning is often an integral part of a building and is generally included in the fair value of the investment property, rather than recognised separately as property, plant and equipment.

(HKAS 40.50)

How to apply the standards to the case?

Shopping Centre

DEF financial statements

The shopping centre meets the definition of an investment property, as it is held in order to earn rental incomes, and it is not owner-occupied. The fact that one unit is rented to a fellow group member is irrelevant in determining the accounting treatment at the individual company level.

DEF provides ancillary services to its lessees, but as long as these services are considered to be an insignificant component of the rental arrangement, the shopping centre will still qualify as an investment property. The ancillary costs represent only 1% of the carrying value of the shopping centre (based on its value at the start of the year) which is therefore not significant. The ancillary costs should be expensed as they represent maintenance costs and do not qualify for recognition as an asset.

DEF has a choice of accounting policy; according to HKAS 40 investment properties may be measured at cost or at fair value. If the fair value model is used, the asset must be remeasured each year end and depreciation is not charged. Changes in fair value of investment properties are taken to the income statement and form part of profit or loss for the year.

If the cost model is used, then the asset falls under the scope of HKAS 16 Property, Plant and Equipment, and depreciation should be charged.

The choice of accounting policy for investment properties must be consistently applied across all of DEF's investment properties.

HCO consolidated financial statements

From the group perspective, the shopping centre is partly owner-occupied because NSB, a member of the group, occupies one of the 20 retail units. Owner-occupied properties do not qualify as investment properties, and instead should be recognised under HKAS 16 Property, Plant and Equipment.

In this case the shopping centre can be separated into distinct portions, as each of the 20 retail units is leased separately. According to HKAS 40 if these portions could be sold separately (or leased out separately under a finance lease) an entity accounts for the portions separately.

Therefore at group level, the shopping centre should be apportioned so that 19/20 is recognised as an investment property, with the remaining 1/20 recognised as property, plant and equipment because it is owner-occupied. At the inception of the lease, 1/20 of the fair value of the shopping centre should be reclassified as property, plant and equipment. The property's deemed cost for subsequent accounting in accordance with HKAS 16 is its fair value at the date of change in use. **(LP Chapter 5, Section 1.5.2).** Depreciation on the owner-occupied component should commence from the date of reclassification.

Leisure complex

The fact that more than half of the units of the leisure complex are vacant does not prohibit its recognition as investment property. According to HKAS 40.8, a building that is vacant but is held to be leased out under one or more operating leases qualifies as an investment property.

All investment property must be accounted for under the same model – cost or fair value. Therefore the model applied to the retail units will also apply here.

If the cost model is used, the lack of tenants could be an indicator of impairment, so DEF should consider conducting an impairment review of the leisure complex in order to compare its value in use with its fair value at the year end. This is not relevant if the fair value model is used.

Amusement park

This is a collection of assets which are rented out. The issue is whether it is just the park itself, or the group of assets which should be recognised as investment property. HKAS 40.50 implies that 'other assets' which are integral to the land and buildings which form the major component of the lease should be recognised as part of the investment property. Therefore if the 'other assets' are necessary for the land and buildings to be used by the lessee in the intended way, and are included in the lease terms, they should be treated as investment property, as it is the entire group of assets which is generating an income stream from the lease contract. It would seem that the amusement park could not operate without floodlights and health and safety equipment, so the whole collection of assets should be treated as investment property.

Recommendation / justification

DEF has three properties which should be recognised as investment properties:

- The shopping centre
- The leisure complex, and
- The amusement park (including 'other assets')

At group level the shopping centre is recognised partly as investment property, but 1/20 is recognised as property, plant and equipment as it is owner-occupied.

Property related standards – measurement

Case study 1 (DEF) – additional information

(a) Additional information is now provided on HCO's group accounting policies:

Investment properties are measured using the fair value model. Owner-occupied properties are measured using the cost model.

Estimated useful life for properties subject to depreciation is 30 years.

Required

(i) Determine the value of the shopping centre to be recognised in DEF's statement of financial position at 31 December 2010, and relevant extracts from the statement of comprehensive income.

(ii) Calculate the value of the shopping centre to be recognised in HCO's consolidated statement of financial position at 31 December 2010, and relevant extracts from the consolidated statement of comprehensive income.

(b) Information is now provided on the 5 year rental agreement between DEF and NSB which commenced on 1 January 2010.

The rental cost to NSB is HK$500,000 per annum with an initial 3 month rent-free period. Additional rental is payable to DEF six-monthly in arrears based on the revenue generated by the rental unit based on the increase in revenue compared to the revenue of the previous 6 month period at the following rates:

0% - 5%	no additional payment
5% - 10%	additional HK$20,000 payable
10%-15%	additional HK$30,000 payable
Over 15%	additional HK$40,000 payable

The first additional payment is due on 31 December 2010.

NSB's retail unit generated HK$4,500,000 revenue in the six months to 30 June 2010, and generated HK$4,815,000 in the six months to 31 December 2010.

Required

(i) Calculate the amount to be recognised in NSB's income statement in respect of its lease of a rental unit from DEF.

(ii) Determine the accounting treatment of the rental agreement in DEF's financial statements, and HCO's consolidated financial statements.

(iii) List the disclosure requirements required by HKAS 17 in respect of the shopping centre and lease arrangement in NSB's and DEF's financial statements.

Discussion points

Property-related standards – measurement

Case study 1 – DEF (continued)

What are the issues?

DEF's shopping centre is an asset recognised at both individual and group levels.

(a) How does the measurement of the asset differ at group level than in DEF's individual accounts?

NSB is paying rentals over a 5 year period to DEF.

(b) What is the accounting treatment for lease incentives such as a rent-free period?

(c) How should contingent rentals be accounted for?

(d) How does the accounting treatment differ in the individual accounts of the subsidiaries, and at group level?

Which accounting standards should be used?

HKAS 40: Investment property

HKAS 17: Leases

HK(SIC) Int-15: Operating leases - incentives

What are the requirements of the accounting standards?

(a) A building held by an entity and leased to a parent or another subsidiary can be recognised as an investment property. Note, however, that while this is regarded as an investment property in the individual entity's financial statements, in the consolidated financial statements this property will be regarded as owner-occupied (because it is occupied by the group) and will therefore be treated in accordance with HKAS 16.

(HKAS 40.15, LP Chapter 5, Section 1.1)

An entity shall choose as its accounting policy either the fair value model or the cost model and shall apply that policy to all of its investment property.

(HKAS 40.30, LP Chapter 5, Section 1.4)

Where the fair value model is chosen, the following rules apply:

(1) An entity that chooses the **fair value model** should measure all of its investment property at fair value, except in the extremely rare cases where this cannot be measured reliably. In such cases it should apply the HKAS 16 cost model.

(2) A gain or loss arising from a change in the fair value of an investment property should be recognised in net profit or loss for the period in which it arises.

(3) The fair value of investment property should reflect the actual market conditions at the end of the reporting period.

(b) Rentals under an operating lease should be charged as an expense over the period of the lease on a straight line basis. This is so even if unequal lease payments are made, unless another systematic and rational basis is justified by the circumstances.

(HKAS 17.33, LP Chapter 8, Section 2.1)

HK(SIC) Int-15 provides that all incentives for the agreement of a new or renewed operating lease should be recognised as an integral part of the net consideration agreed for the use of the leased asset, irrespective of the incentive's nature or the form or the timing of payments. The lessee should recognise the aggregate benefit of incentives as a reduction of rental expense over the lease term, generally on a straight line basis.

(HK(SIC) Int 15.4-6, LP Chapter 8, Section 2.1.1)

How to apply the standards to the case?

(a) DEF financial statements – measurement of the property

The shopping centre meets the definition of an investment property, as it is held in order to earn rental incomes, and it is not owner-occupied.

DEF has a choice of accounting policy; according to HKAS 40 investment properties may be measured at cost or at fair value. It is group accounting policy to measure investment properties at fair value, so this is the valuation model that should be used for the shopping centre. Under HKAS 40's valuation model, the property should not be depreciated, and changes in fair value are recognised in the income statement. Maintenance costs should be expensed.

Therefore, DEF's financial statements will include the following for the year ending 31 December 2010:

Statement of financial position	HK$	
Investment property	155,000,000	(measured at fair value)
Income statement		
Operating expenses:		
Maintenance costs	1,250,000	
Other operating income:	30,000,000	(being the change in fair value of the property)

HCO consolidated financial statements – measurement of the property

Following on from the discussion in Handout 2.1 Case Study 1, at group level the shopping centre should be apportioned so that 19/20 is recognised as an investment property, with the remaining 1/20 recognised as property, plant and equipment. At the inception of the lease, 1/20 of the fair value of the shopping centre should be reclassified as property, plant and equipment.

Depreciation should commence from the inception of the lease to NSB, using the 30 year estimated useful life according to group accounting policy.

Statement of financial position:	HK$
Non-current assets	
Property, plant and equipment (w1)	6,041,667
Investment property (w1)	147,250,000
Income statement	
Operating expenses (w1):	
Depreciation	208,333
Maintenance costs	1,250,000
Other operating income (w1)	28,500,000

Working 1

Shopping centre carrying value at 1 January 2010 = HK$125,000,000

Allocate 19/20 as investment property = HK$118,750,000

This component is not depreciated.

Shopping centre fair value at 31 December 2010 = HK$155,000,000, of which 19/20 relates to this component = HK$ 147,250,000

Change in fair value of this component = HK$28,500,000 to be recognised in group income statement.

Note that from the perspective of performing the consolidation, the full amount of change in fair value of HK$30,000,000 (HK$155m – HK$125m) is already included in DEF's individual income statement. Therefore on consolidation, HK$1.5million of the change (ie the 1/20 relating to the owner-occupied property) should be reversed out as a consolidation adjustment.

Allocate 1/20 as property, plant and equipment = HK$6,250,000

This component is depreciated over 30 year useful life (group accounting policy for non-investment properties) 6,250,000/ 30 = HK$208,333, recognised in group income statement.

Carrying value of this component at 31 December 2010 = HK$6,041,667.

The full amount of maintenance costs remains recognised at group level, as these costs are incurred regardless of whether the property is classified as investment property or as property, plant and equipment.

(b) Lease incentive

The lease is an operating lease, and the cost to NSB should be recognised on a straight line basis over the 5 year lease period. This means that the benefit of the 3 month rent free period (HK$125,000) is spread over the entire lease period, rather than being recognised in the first year only.

Total amount payable (HK$500,000 × 5) - HK$125,000 = HK$2,375,000

Annual expense HK$2,375,000/5 years = HK$475,000

The difference between the annual expense (475,000) and the actual cash payable in the first year (375,000) of HK$100,000 should be recognised as an accrual, which represents the deferred benefit of the lease incentive to NSB.

Contingent rent

According to HKAS 17.25, contingent rents should be expensed in the period to which they relate.

No contingent rental is payable in respect of the first six month rental period. In the second six month rental period contingent rent is payable depending on the increase in revenue that has been generated by the rental unit.

Revenue increases by 7% in the second six month period, and therefore an additional payment of HK$20,000 is due to be paid to DEF on 31 December 2010. If this has not been paid in cash by the year end, it should be accrued for.

Therefore the total rental expense to be recognised in NSB's income statement is HK$495,000 for the year ending 31 December 2010.

This equates to rental income receivable in the financial statements of DEF. If DEF's main business activity involves investment property, this should be classified as revenue. DEF will recognise the incentive as a deferred cost of HK$100,000 at 31 December 2010.

At group level, the amount payable by NSB to DEF in respect of the lease would be cancelled out as an inter-company transaction, so would not be recognised in the consolidated financial statements.

Recommendation / justification

DEF financial statements

	HK$	
DR investment property	30,000,000	
CR income statement	30,000,000	being remeasurement of property to fair value
DR operating expenses	1,250,000	
CR cash	1,250,000	being maintenance costs
DR cash / receivables	395,000	being cash received from NSB
DR prepayment	100,000	being deferred cost of lease incentive
CR revenue	495,000	being rental income from NSB

NSB financial statements

DR operating expenses	495,000	
CR cash	20,000 + 375,000 = 395,000	
CR accrual	100,000	being accrued benefit of the lease incentive

HCO consolidated financial statements

DR PPE	6,250,000	
CR investment property	6,250,000	being transfer of owner occupied component
DR income statement	1,500,000	
CR investment property	1,500,000	being reversal of increase in FV of investment property which is classified as owner occupied at group level.
DR operating expenses	208,333	
CR PPE	208,333	being depreciation of owner occupied component
DR revenue	495,000	
CR operating expenses	495,000	being elimination of intragroup rental transaction
DR accrual	100,000	
CR prepayment	100,000	being elimination of intragroup accrual / prepayment in respect of lease agreement

Disclosure requirements

HKAS 17

The following HKAS 17 disclosure requirements are relevant to DEF's financial statements:

– The future minimum lease payments under non-cancellable operating leases in aggregate and split between not later than one year, later than one year but no later than 5 years and later than 5 years

– Total contingent rents recognised in income

– A general description of the lessor's leasing arrangements.

The following HKAS 17 disclosure requirements are relevant to NSB's financial statements:

– The total future minimum lease payments under non-cancellable operating leases split between not later than one year, later than one year but no later than 5 years and later than 5 years

– Lease payments recognised as an expense in the period with separate amounts for minimum lease payments and contingent rents

– A general description of significant leasing arrangements including the basis on which contingent rent payments are determined.

Property related standards – recognition

Case study 2

(a) ABC is a property construction company with a financial year ended 31 December 2010. ABC has constructed a new head office for its own use. Construction commenced on 1 April 2008, and was completed on 30 September 2009, when the head office became available for use. ABC did not occupy the head office until 1 January 2010. The head office has an estimated useful life of 25 years.

Below summarised the costs and respective time incurred in constructing the head office:

Date amount incurred	Nature of the expenditure	HK$
1 April 2008	Legal fees regarding advice sought on planning permission	135,000
1 April 2008	External labour costs for site preparation	500,000
30 April 2008	Payment to supplier of building materials	3,000,000
30 June 2008	Interest payment on loan (note 1)	25,000
30 September 2008	Payment to supplier of building materials	3,500,000
31 December 2008	Interest payment on loan (note 1)	25,000
31 March 2009	Payment to supplier of building materials	6,000,000
30 June 2009	Interest payment on loan (note 1)	25,000
30 September 2009	Payment to supplier of building materials	3,000,000
30 September 2009	Installation of security system (note 2)	3,250,000
31 December 2009	Costs of relocating office furniture and computers to the new head office	350,000
31 December 2009	Interest payment on loan (note 1)	25,000

Notes:

Note 1 The loan was taken out specifically in relation to the construction on 1 January 2008. Interest is set at HK$25,000 per six months, and is payable six-monthly in arrears, starting 30 June 2008.

Note 2 The security system has an estimated useful life of 6 years.

In addition to the above, ABC's payroll expense includes staffs working exclusively on the head office construction with total salaries of HK$325,000 per month and a project manager with monthly salary of HK$75,000 in relation to who spends approximately one third of his time overseeing the head office construction.

Additional costs of HK$100,000 were incurred in March 2009 in relation to an industrial dispute which meant that external workers had to be brought in.

(b) ABC has a residential development division, which is converting the old head office into a block of apartments. It is anticipated that once the conversion is complete, the property will be sold to a housing association. The conversion commenced on 1 February 2010, and is expected to be complete by 31 March 2011.

Required

Using the information provided, determine:

(i) which accounting standards are relevant,

(ii) the nature of each property,

(iii) what recognition criteria should be used, and

(iv) List the disclosure requirements in respect of the properties.

Discussion points

Property-related standards – recognition

Case study 2 – ABC

What are the issues?

ABC has self-constructed a new head office and is redeveloping the old head office for sale. Many different costs were incurred in constructing the new head office. The asset was ready for use on 30 September 2009, and was occupied by ABC on 1 January 2010. The old head office is being converted for sale. In relation to the properties:

(a) Which costs should be recognised as part of the new head office or as a separate depreciable item, and which should be expensed?

(b) When should depreciation commence on the new head office?

(c) How should the old head office be recognised in the statement of financial position?

Which accounting standards should be used?

HKAS 16: Property, plant and equipment

HKAS 23 (Revised): Borrowing costs

HKAS 2: Inventories

What are the requirements of the accounting standards?

HKAS 16

The recognition of property, plant and equipment depends on two criteria:

(a) It is probable that future economic benefits associated with the asset will flow to the entity.

(b) The cost of the asset to the entity can be measured reliably.

(HKAS 16.7, LP Chapter 4, Section 2.3)

Once an item of property, plant and equipment qualifies for recognition as an asset, it will initially be measured at cost. The standard lists the components of the direct cost of an item of property, plant and equipment:

(a) Purchase price, less any trade discount or rebate

(b) Import duties and non-refundable purchase taxes

(c) Directly attributable costs of bringing the asset to working condition for its intended use, for example:

  (i) The cost of site preparation

  (ii) Initial delivery and handling costs

  (iii) Installation costs

  (iv) Testing

  (v) Professional fees (architects, engineers)

(d) Initial estimate of the unavoidable cost of dismantling and removing the asset and restoring the site on which it is located (HKAS 37 Provisions, Contingent Liabilities and Contingent Assets).

(e) Any borrowing costs incurred related to building the asset may be capitalised within the assets too (HKAS 23 Borrowing Costs).

(HKAS 16.17, LP Chapter 4, Section 2.4.1)

In addition, the capitalisation of costs must cease when an asset is in the location and condition necessary for it to be capable of normal operation. Therefore, the following may not be capitalised:

- Costs incurred when an item is capable of normal use however is operating at less than full capacity
- Initial operating losses
- The costs of relocating or reorganising the entity's operations.

(HKAS 16.20, LP Chapter 4, Section 2.4.1)

The cost of a self-constructed asset is determined using the same principles as for an acquired asset. If an entity makes similar assets for sale in the normal course of business, the cost of the asset is usually the same as the cost of constructing an asset for sale (see HKAS 2). Therefore, any internal profits are eliminated in arriving at such costs. Similarly, the cost of abnormal amounts of wasted material, labour, or other resources incurred in self-constructing an asset is not included in the cost of the asset. HKAS 23 Borrowing Costs establishes criteria for the recognition of interest as a component of the carrying amount of a self-constructed item of property, plant and equipment.

(HKAS 16.22, LP Chapter 4, Section 2.4.1)

Each part of an item of property, plant and equipment with a cost that is significant in relation to the total cost of the item shall be depreciated separately. An entity allocates the amount initially recognised in respect of an item of property, plant and equipment to its significant parts and depreciates separately each such part.

(HKAS 16.43, LP Chapter 4, Section 2.5)

Depreciation of an asset begins when it is available for use, i.e. when it is in the location and condition necessary for it to be capable of operating in the manner intended by management.

(HKAS 16.55, LP Chapter 4, Section 2.5)

<u>HKAS 23 (Revised)</u>

Three events or transactions must be taking place for capitalisation of borrowing costs to be started:

(a) Expenditure on the asset is being incurred

(b) Borrowing costs are being incurred

(c) Activities are in progress that are necessary to prepare the asset for its intended use or sale

(HKAS 23.17, LP Chapter 16, Section 1.2.3)

<u>HKAS 2</u>

Inventories are assets:

- Held for sale in the ordinary course of business
- In the process of production for such sale
- In the form of materials or supplies to be consumed in the production process or in the rendering of services.

(HKAS 2.6, LP Chapter 9, Section 1.2)

How to apply the standards to the case?

New head office

It is necessary to consider each component of the costs associated with the construction of the new head office to see if they meet the criteria for recognition as part of the asset, and if they were incurred prior to the asset becoming capable of normal operation.

Legal fees, external labour costs and payments to supplier of building materials – these are considered to be directly attributable to the property, and are incurred prior to the asset becoming capable of normal operation which was 30 September 2009. Therefore all of these costs should be recognised as part of the head office asset.

The security system should be treated as a separate component of the asset as it has a cost which is significant in relation to the total cost of the asset, according to HKAS 16.43. The security system should therefore be depreciated over its own estimated life of 6 years. The other capitalised costs should be depreciated over 25 years.

The interest (borrowing costs) should be recognised as part of the head office asset according to HKAS 23 (revised), but interest can only be capitalised from the point in time when activities are in progress that are necessary to prepare the asset for its intended use or sale. This means that even though the loan was taken out on 1 January 2008, interest must only be capitalised from 1 April 2008, as this is when construction activity commenced and expenditure was incurred on the asset. The interest from 1 January to 31 March 2008 must be treated as an expense (finance cost).

Capitalisation of costs, including borrowing costs, should cease once the asset is available for normal use. This occurs on 30 September 2009.

The costs of relocating office furniture and computers to the new head office are not allowed to be recognised as an asset, according to HKAS 16.20. These costs are not necessary for the asset to be ready for use by management.

The payroll costs should be included for the 18 month period of construction of the head office, as these are directly attributable costs. The project manager's payroll cost should be allocated on a one third basis to the head office.

The additional costs incurred due to industrial dispute should not be capitalised as they are abnormal costs. (HKAS 16.22)

Depreciation should commence from the date on which the building is ready for use ie 30 September 2009. The fact that the building is not occupied until 1 January 2010 is irrelevant for the purpose of determining when depreciation should commence.

Therefore as at 31 December 2010, accumulated depreciation on the property will represent 15 months of depreciation.

Old head office

From 1 January 2010, the old head office is no longer occupied by ABC for trading purposes. As the asset is being converted for potential sale, the property should be transferred to inventory until it is sold. It should be transferred at carrying value, and no longer depreciated once it has been reclassified.

Any costs of conversion should be added to the carrying value of the property in accordance with HKAS 2's requirement that cost includes all costs of conversion incurred in bringing inventory to its present location and condition.

Recommendation / justification

ABC's new head office should be capitalised in the financial statements and depreciation charged from 30 September 2009.

From 1 January 2010 the old head office should be reclassified as inventories.

Disclosure requirements

HKAS 16

The following HKAS 16 disclosure requirements are relevant to ABC:

- Measurement bases for determining gross carrying amount
- Depreciation methods used
- Useful lives or depreciation rates used
- Gross carrying amount and accumulated depreciation at the start and end of the period and a reconciliation between these amounts
- The amount of expenditure on assets in the course of construction

Further disclosure is also required where assets are pledged as security, there are commitments to acquire further assets and the revaluation model is applied.

HKAS 23

The following HKAS 23 disclosure requirements are relevant to ABC:

- The amount of borrowing costs capitalised in the period

HKAS 2

The following HKAS 2 disclosure requirements are relevant to ABC, and in particular the old head office:

- The accounting policies adopted in measuring inventories
- The carrying amount of the head office classified appropriately

Further disclosure is required where inventories are carried at fair value less costs to sell, where they are written down in a period, or where they are pledged as security for liabilities.

Property related standards – measurement

Case study 2 (ABC) – additional information

ABC's new head office continues to be occupied throughout 2010.The head office is used by the three business segments of ABC – residential property development, commercial property development and public sector property developments.

In 2010 the country suffers an economic recession, which particularly affects residential and commercial business segments. The government released statistics indicating that the recession is expected to last for a number of years, and that the property market will remain depressed for the foreseeable future. This prompted ABCs management to review the future expected performance of the business segments, and the value in use of each on 31 December 2010 was found to be:

Residential property:	HK$55,000,000
Commercial property:	HK$32,000,000
Public sector property:	HK$25,000,000

The three business segments have identifiable assets and goodwill attributable to them as follows:

	Residential property	Commercial property	Public sector property
Identifiable assets:	**HK$'000**	**HK$'000**	**HK$'000**
Goodwill	10,000	5,000	2,500
Property, plant and equipment	46,000	25,000	10,000
Other net assets	24,000	10,000	7,500
Total	**80,000**	**40,000**	**20,000**

Required

(i) **Calculate at what amount the new head office should initially be recognised**

(ii) **Calculate the annual depreciation charge on the new head office and its carrying value at 31 December 2010 before any impairment review.**

(iii) **Determine the relevant accounting standard in terms of the additional information provided above.**

(iv) **Allocate the head office to each segment based on the identifiable assets of each and calculate the impairment loss for each business segment**

(v) **Calculate the value of the head office to be recognised immediately after the impairment review on 31 December 2010, and**

(vi) **List the required disclosures in respect of the impairment of assets in according to HKAS 36.**

Discussion points

Property-related standards – measurement

Case study 2 – ABC (continued)

What are the issues?

ABC is operating three business segments which have identifiable cash generating assets. The economy is suffering a decline, indicating that an impairment review should be conducted. The issues are:

(a) At what value should the head office initially be measured?

(b) What is the carrying value of the head office (before any impairment) at 31 December 2010?

(c) How should the head office be allocated to the business segments?

(d) Are all of the business segments impaired?

(e) For the impaired business segments, how is the impairment calculated and allocated to the assets?

(f) What is the carrying value of the head office immediately subsequent to the impairment review?

Which accounting standard should be used?

HKAS 36: Impairment of assets

What are the requirements of the accounting standards?

If it is not possible to calculate the recoverable amount for an individual asset, the recoverable amount of the asset's cash generating unit should be measured instead. A cash generating unit is the smallest identifiable group of assets for which independent cash flows can be identified and measured. **(HKAS 36.66, LP Chapter 7, Section 4.8.1)**

Corporate assets include group and divisional assets that do not generate cash inflows independently from other assets and hence their carrying amount cannot be fully attributed to a cash generating unit under review. Head office building, equipment or a research centre are examples of corporate assets.

An entity should identify all the corporate assets that relate to a cash generating unit in an impairment test of that unit. An entity compares the carrying amount of the unit (including the portion of the asset) with its recoverable amount when a portion of the carrying amount of a corporate asset can be allocated to the unit on a reasonable and consistent basis.

(HKAS 36.100, LP Chapter 7, Section 4.10)

An impairment loss should be recognised for a cash generating unit if the recoverable amount for the cash generating unit is less than the carrying amount in the statement of financial position for all the assets in the unit. When an impairment loss is recognised for a cash generating unit, the loss should be allocated between the assets in the unit in the following order:

(a) First, to the goodwill allocated to the cash generating unit (if any).
(b) Then, to all other assets in the cash generating unit, on a pro rata basis.

In allocating an impairment loss, the carrying amount of an asset should not be reduced below the highest of:

(a) its fair value less costs to sell,
(b) its value in use (if determinable), or
(c) zero.

(HKAS 36.104, LP Chapter 7, Section 4.11)

How to apply the standards to the case?

Recognition and measurement of the head office

As discussed in the first part of the ABC case study, the head office should be initially recognised as follows at 30 September 2009:

	HK$
Legal costs	135,000
External labour	500,000
Payments to supplier of materials (3,000,000+3,500,000+6,000,000+3,000,000)	15,500,000
Borrowing costs (25,000/6 x 18 months)	75,000
Payroll costs (325,000 x 18 months)	5,850,000
Project manager costs (75,000/3 x 18 months)	450,000
Security system	3,250,000
	25,760,000

The security system is capitalised as part of the cost of the head office, however for depreciation purposes the property and security system are separate assets:

	HK$
Head office (25,760,000 – 3,250,000)	22,510,000
Security system	3,250,000

Depreciation per annum is calculated as follows:	HK$
Head office cost excluding security system (22,510,000/25 yrs)	900,400
Security system depreciation (3,250,000/ 6 yrs)	541,667
	1,442,067

At 31 December 2010, the property has been depreciated for 15 months and therefore its carrying value is:

Cost	25,760,000
Depreciation (15/12 x 1,442,067)	(1,802,584)
	23,957,416

Impairment

The three business segments each represent a cash generating unit (CGU), because they generate independent cash flows and each have directly attributable assets.

The economic recession is an indicator of impairment, and management has already forecast the value in use of each CGU for use in an impairment test. The head office represents a central asset, and its carrying value must be allocated to each CGU in order for the impairment test to be conducted. HKAS 36 requires that central assets are allocated on a reasonable and consistent basis, which is usually on the basis of the net assets of the CGUs.

The carrying value of the head office is allocated to the three CGUs on a pro-rata basis:

	Residential property	Commercial property	Public sector property
Identifiable assets:	**HK$000**	**HK$000**	**HK$000**
Goodwill	10,000	5,000	2,500
Property, plant and equipment	46,000	25,000	10,000
Other net assets	24,000	10,000	7,500
Total	**80,000**	**40,000**	**20,000**
Allocation of head office 23,957,000 (8:4:2)	**13,690**	**6,845**	**3,422**
Total carrying value of CGU	**93,690**	**46,845**	**23,422**

Next, each CGU should be tested for impairment by comparing its total carrying value with its value in use.

	Residential property	Commercial property	Public sector property
Identifiable assets:	**HK$000**	**HK$000**	**HK$000**
Total carrying value of CGU	93,690	46,845	23,422
Value in use	55,000	32,000	25,000
Impairment loss	**38,690**	**14,845**	**Not impaired**

The results of the impairment test show that residential property and commercial property CGUs are both impaired, as the value in use is less than carrying value. However, the public sector CGU is not impaired as its value in use exceeds carrying value.

For the impaired CGUs, the impairment loss must be allocated across the assets in the CGU, including the head office. HKAS 36 requires that impairment losses are allocated firstly to any goodwill in the CGU, and then allocated pro-rata over the remaining assets in the CGU.

For the residential property CGU, the impairment is allocated as follows:

Residential property	Original carrying value	Impairment	Final carrying value
Identifiable assets:	**HK$000**	**HK$000**	**HK$000**
Goodwill	10,000	(10,000)	-
Property, plant and equipment	46,000	*(15,769)	30,231
Other net assets	24,000	*(8,228)	15,772
Allocation of head office	13,690	*(4,693)	8,997
Total carrying value of CGU	**93,690**	**(38,690)**	**55,000**

*after allocating HK$10,000,000 impairment loss to goodwill, the remaining impairment loss of HK$28,690,000 is allocated pro-rata according to the carrying value of the remaining assets in the CGU.

For the commercial property CGU, the impairment is allocated as follows:

Commercial property	Original carrying value	Impairment	Final carrying value
Identifiable assets:	**HK$000**	**HK$000**	**HK$000**
Goodwill	5,000	(5,000)	-
Property, plant and equipment	25,000	*(5,882)	19,118
Other net assets	10,000	*(2,353)	7,647
Allocation of head office	6,845	*(1,610)	5,235
Total carrying value of CGU	**46,845**	**(14,845)**	**32,000**

*after allocating HK$5,000,000 impairment loss to goodwill, the remaining impairment loss of HK$9,845,000 is allocated pro-rata according to the carrying value of the remaining assets in the CGU.

We can now conclude that the head office should be measured at HK$17,654,000 after the impairment loss has been recognised. (Head office valued at HK$8,997,000 in residential CGU + HK$5,235,000 in commercial CGU + HK$3,422,000 in public sector CGU.) Its previous carrying value was HK$ 23,957,000, so an impairment loss of HK$6,303,000 should be recognised in respect of the head office.

Recommendation / justification

The head office has suffered an impairment loss, which should be recognised immediately in profit and loss:

	HK$	HK$
DR operating expenses	6,303,000	
CR head office asset		6,303,000

Depreciation must be recalculated based on the new, lower amount.

Disclosure requirements

HKAS 36 requires the following disclosures where an impairment has taken place in the year, and which are applicable to ABC:

– The amount of impairment loss recognised in profit or loss in the period and the line item where it is included

– The events and circumstances leading to the recognition of the impairment loss

– A description of each cash generating unit which is impaired and the amount of impairment loss recognised by class of assets

– Whether recoverable amount is fair value less costs to sell or value in use, and the basis used to determine this amount.

Further disclosures are required where impairment losses are recognised in other comprehensive income, losses are reversed in the period, losses relate to individual assets, or the make up of CGUs has changed.

Resolving accounting issues

Case study 1

JKL is a manufacturer of domestic appliances, and has a financial year ended 31 December 2010, and four accounting issues need to be resolved prior to the finalisation of the financial statements.

1. Warranty

   JKL offers a warranty to customers if products are found to be defective within six months of purchase. If minor defects were found in all products sold in the six months prior to the year end, repair costs of HK$5 million would result. If major defects were found in all products sold, repair costs of HK$20 million would result. In previous years, JKL has provided for warranty costs based on an estimation that 20% of goods have minor defects, and 5% have major defects. Due to quality control improvements in the manufacturing process, it is now estimated that 17% of goods will have minor defects, and 3% major defects. A provision of HK$2 million was recognised at 31 December 2009.

2. Depreciation

   Machinery had a carrying value at 1 January 2010 of HK$50,250,000. In previous years, JKL charged depreciation on a reducing balance basis at 15% per annum. Owing to higher than anticipated production levels, it is now thought that a reducing balance of 18% is more appropriate.

3. Incorrect accounting treatment

   A machine was purchased for HK$8 million on 1 January 2009. The cost (which is material to the financial statements) was incorrectly treated as an administrative expense. The depreciation policy is as set out in note 2 above.

   Information from JKL's draft accounts is as follows:

	31.12.2009	31.12.2010
	HK$	HK$
Net profit for the year	14,500,000	30,000,000
Opening retained earnings	150,000,000	164,500,000

   These figures for 2010 are before accounting for the warranty provision, depreciation or incorrect accounting treatment.

4. Investment property

   JKL purchased a property on 1 May 2008 for HK$2 million which was classified as an investment property. JKL has no other investment properties. The company applied the cost model to the investment property, depreciating it over 50 years, with a full year's depreciation charge in the year of acquisition and none in the year of disposal. At 31 December 2010, it has become apparent that the nature of the commercial property market means that the fair value model would result in more reliable and relevant information in the financial statements. The fair values of the property were as follows:

31 December 2008	HK$2.25 million
31 December 2009	HK$2.40 million
31 December 2010	HK$2.50 million

Required

Using the information provided:

(i) determine which accounting standards are relevant,

(ii) discuss the appropriate accounting treatment for each of the four issues,

(iii) calculate the correct amounts to be recognised in JKL's financial statements as at 31 December 2010 in respect of the warranty provision, depreciation charge and investment property,

(iv) prepare extracts from JKL's statement of comprehensive income and statement of changes in equity as at 31 December 2010, and

(v) List the disclosure requirements of HKAS 8 relevant to JKL.

Discussion points

Resolving accounting issues

Case study 1 – JKL

What are the issues?

JKL has the following issues to deal with in order to prepare financial statements as at 31 December 2010:

(a) Are changes in respect of the warranty, depreciation method and investment property measurement model changes in accounting policy or accounting estimate?

(b) At what value should the provision be recognised, and what adjustment is needed to the financial statements?

(c) What depreciation charge should be recognised this year?

(d) How should the accounting treatment of the machine be corrected and disclosed in the financial statements?

(e) At what value should the investment property be recognised, and what adjustment is needed to the financial statements?

Which accounting standards should be used?

HKAS 8: Accounting policies, Changes in accounting estimates and Errors

HKAS 37: Provisions, Contingent Liabilities and Contingent Assets

What are the requirements of the accounting standards?

Accounting policies are the specific principles, bases, conventions, rules and practices applied by an entity in preparing and presenting financial statements.

A *change in accounting estimate* is an adjustment of the carrying amount of an asset or a liability, or the amount of the periodic consumption of an asset, that results from the assessment of the present status of, and expected future benefits and obligations associated with, assets and liabilities. Changes in accounting estimates result from new information or new developments and, accordingly, are not corrections of errors. **(HKAS 8.5, LP Chapter 21, Section 1.2)**

The effect of a change in an accounting estimate shall be recognised prospectively by including it in profit or loss in:

(a) the period of the change, if the change affects that period only; or

(b) the period of the change and future periods, if the change affects both.

To the extent that a change in an accounting estimate gives rise to changes in assets and liabilities, or relates to an item of equity, it shall be recognised by adjusting the carrying amount of the related asset, liability or equity item in the period of the change.

(HKAS 8.36, LP Chapter 21, Section 3.1)

An entity may change an accounting policy only if the change is required by an HKFRS or results in the financial statements providing more reliable and relevant information.

(HKAS 8.14, LP Chapter 21, Section 2.2)

When an entity changes an accounting policy voluntarily, it shall apply the change retrospectively.

(HKAS 8.19, LP Chapter 21, Section 2.2.1)

When a change in accounting policy is applied retrospectively, the entity shall adjust the opening balance of each affected component of equity for the earliest prior period presented and the other comparative amounts disclosed for each prior period presented as if the new accounting policy had always been applied.

(HKAS 8.22, LP Chapter 21, Section 2.2.1)

An entity shall correct material prior period errors retrospectively in the first set of financial statements authorised for issue after their discovery by:

(a) restating the comparative amounts for the prior period(s) presented in which the error occurred; or

(b) if the error occurred before the earliest prior period presented, restating the opening balances of assets, liabilities and equity for the earliest prior period presented.

(HKAS 8.42, LP Chapter 21, Section 4.1)

The amount recognised as a provision shall be the best estimate of the expenditure required to settle the present obligation at the end of the reporting period. The best estimate of the expenditure required to settle the present obligation is the amount that an entity would rationally pay to settle the obligation at the end of the reporting period or to transfer it to a third party at that time.

The estimates of outcome and financial effect are determined by the judgement of the management of the entity, supplemented by experience of similar transactions and, in some cases, reports from independent experts. The evidence considered includes any additional evidence provided by events after the reporting period.

Uncertainties surrounding the amount to be recognised as a provision are dealt with by various means according to the circumstances. Where the provision being measured involves a large population of items, the obligation is estimated by weighting all possible outcomes by their associated probabilities. The name for this statistical method of estimation is "expected value".

(HKAS 37.36-39, LP Chapter 10, Section 2.1)

How to apply the standards to the case?

<u>Warranty provision</u>

Provisions are based on estimates, and JKL is changing the estimation method used in determining its warranty provision. According to HKAS 8, changes in estimates are accounted for prospectively meaning that the effect of the change in estimate is in the current year financial statements. No adjustment is made to opening balances or to comparative figures.

The value of the new provision is calculated using expected values as follows: (80% x nil) + (17% x HK$5 million) + (3% x HK$20 million) = HK$1,450,000.

The provision previously recognised was HK$2 million, therefore a reduction in provision of HK$550,000 should be made.

Depreciation method

Depreciation is also based on estimates, including estimates of the residual value and estimated useful life of the asset. Any changes to depreciation method should be accounted for as a change in estimate, according to HKAS 8.38. This paragraph states that some changes to accounting estimates, eg a change in the estimate of bad debts, affect only the current period's profit or loss, and so are recognised in the current period. Other changes to accounting estimates, such as a change in the estimated useful life of an asset or the expected pattern of consumption of future economic benefits of an asset affect depreciation expense for the current and future periods. Therefore the effect of the change is recognised as income or expense in the current and future periods.

The depreciation adjustment for JKL's machinery should therefore be made prospectively, so that the assets' carrying value is written off using the new reducing balance of 18% per annum in current and future periods. No adjustment is made to opening balances or to comparative figures.

The carrying value of machinery at the start of the year (not including the machinery incorrectly accounted for which is discussed separately below) is HK$50,250,000. Applying the new depreciation rate of 18% results in a depreciation charge for the year of HK$9,045,000. This amount should be recognised as an operating expense, and included in accumulated depreciation of machinery.

Accounting error

The machinery has been incorrectly accounted for from 1 January 2009, meaning that a prior period error has been made. HKAS 8 requires that such errors are corrected on a retrospective basis, meaning that comparative amounts and opening balances are restated. The result of retrospective adjustment is to present the financial statements as if the error had not occurred.

In JKL's case, the error occurred in the previous accounting period, so opening balances of non-current assets and retained earnings will need to be adjusted, and the comparative statement of comprehensive income restated in order to include the asset and to recognise an appropriate amount of depreciation on the asset.

The necessary restatement is calculated as follows:

1.1.2009	depreciation	31.12.2009	depreciation	31.12.2010
HK$	HK$	HK$	HK$	HK$
8,000,000	(1,200,000)	6,800,000	(1,224,000)	5,576,000
Include asset in SOFP	@15% reducing balance	Carrying value 31.12.2009	@18% reducing balance	Carrying value 31.12.2010

Therefore, the comparative statement of comprehensive income should include an additional HK$1.2 million depreciation, and opening retained earnings adjusted to include the effect of the additional expense. In addition, the original accounting error must be corrected by removing HK$8 million from the prior year statement of comprehensive income and adjusting retained earnings by the same amount. The asset will be recognised on the comparative statement of financial position at HK$6.8 million, and on the current year statement of financial position at HK$5.576 million.

Investment property

Investment property may be measured using the cost model or the fair value model. A change from one model to the other constitutes a change in accounting policy.

(HKAS 40.30-31)

The necessary adjustments are calculated as follows:

	1 May 2008 HK$000	Profit or loss 2008 HK$000	31 Dec 2008 HK$000	Profit or loss 2009 HK$000	31 Dec 2009 HK$000	Profit or loss 2010 HK$000	31 Dec 2010 HK$000
Cost model	2,000	(40)	1,960	(40)	1,920	(40)	1,880
FV model	2,000	250	2,250	150	2,400	100	2,500
Adjustment		290		190		140	

These adjustments are dealt with as follows:

1. The HK$290,000 adjustment relating to 2008 must be dealt with by adjusting the retained earnings brought forward at 1 January 2009 in the statement of changes in equity.
2. The HK$190,000 adjustment relating to 2009 is dealt with by restating the comparative statement of comprehensive income and the comparative net profit within the statement of changes in equity.
3. The HK$140,000 adjustment relating to the current year is dealt with by adjusting the amounts recognised in the statement of comprehensive income.

The investment property is recognised at HK$2.5 million in the statement of financial position at 31 December 2010 and HK$2.4 million at 31 December 2009.

Recommendation / justification

The following journals should be posted to JKL's accounts in respect of the year ended 31 December 2010:

Warranty provision	HK$000	
DR warranty provision	550	
CR operating expenses	550	being reduction in provision
Depreciation method		
DR operating expenses	9,045	
CR accumulated depreciation	9,045	being current year depreciation on machinery
Accounting error		
DR non-current assets	8,000	
CR retained earnings	8,000	being correction of accounting error in prior year
DR retained earnings	1,200	
CR accumulated depreciation	1,200	being prior year depreciation on reinstated asset
DR operating expenses	1,224	
CR accumulated depreciation	1,224	being current year depreciation on the reinstated asset
Investment property		
DR investment property	480	
CR retained earnings	480	being application of new accounting policy prior to 1 January 2009 (290 + 190).
DR investment property	140	
CR profit or loss	140	being application of new accounting policy in 2010.

Extracts from the financial statements as at 31 December 2010 should be presented as follows:

Statement of comprehensive income

	31.12.2010	**31.12.2009** (as restated)
	HK$000	HK$000
Net profit	**20,421 (w)**	**21,490 (w)**

Working: Calculation of net profit

Net profit as given in case study	30,000	14,500
Correction of error	-	8,000
Additional depreciation on reinstated asset	-	(1,200)
Depreciation charge for 2010 (9,045+1,224)	(10,269)	-
Reduction in warranty provision	550	-
Change in accounting policy	140	190
	20,421	**21,490**

Statement of changes in equity (extract)

Retained earnings

	HK$000
Balance at 31 December 2008	150,000
Change in accounting policy	290
Balance at 31 December 2008 as restated	150,290
Profit for the year ended 31.12.09 as restated	21,490
Balance at 31 December 2009	171,780
Profit for the year ended 31.12.2010	20,421
Balance at 31 December 2010	192,201

Disclosure requirements

The following disclosure requirements are relevant:

Change in accounting policy

HKAS 8 requires the following disclosures where there is a change in accounting policy which is material:

- reasons for the change
- amount of the adjustment for the current period and for each period presented
- amount of the adjustment relating to periods prior to those included in the comparative information
- the fact that comparative information has been restated

Change in accounting estimate

Where there is a change in accounting estimate, an entity must disclose the nature and amount of the change that has an effect in the current period or is expected to have an effect in future periods.

Error

The following must be disclosed in relation to an error:

- nature of the prior period error.
- for each prior period, to the extent practicable, the amount of the correction for each financial statement line item affected
- the amount of the correction at the beginning of the earliest prior period presented.

Further disclosure is required where retrospective adjustment is impracticable (in the case of a change in policy or error).

Resolving accounting issues

Case study 2

X-treme is a manufacturer of clothing and equipment for extreme sports, including mountain climbing, skiing and deep sea diving. It currently operates primarily in Asia, however has a long term strategy to expand into the Australian and American markets. As part of this strategy, X-treme is developing its brand portfolio.

Deep Blue

On 1 October 2009, the company acquired a well established Australian brand, 'Deep Blue' at a cost of HK$2.6 million cash consideration. Included within this amount were patents on 'XZ3' performance fabric transferred by the vendor for HK$100,000.

As a result of this deal, X-treme was able to penetrate the multi-million dollar Australian wetsuit market. At the time of the acquisition of the brand, the fabric protected by the patent was expected to be a source of net cash inflows for 10 years. The directors of X-treme would, however, commit to continuous development of high performance wetsuit fabrics, such that the Deep Blue brand would result in net cash inflows for the foreseeable future.

During 2010, a competitor patented a new fabric with capabilities beyond those of XZ3. As a result, at the end of 2010, the directors estimated that the patent covering XZ3 had a useful life of 6 rather than 10 years. The directors were further concerned that this development may have harmed the Deep Blue brand, and sought the advice of a brand valuation agency. It indicated that at 31 December 2010 the value in use of the brand name was HK$2.45 million and that it could be sold for HK$2.55 million. The agency also indicated that a year earlier these figures would have been HK$2.6 million and HK$2.68 million respectively, so confirming the directors' concerns. Any sale is subject to 5% broker's fees.

X-lite

On 31 October 2008, after six months of research X-treme's development department created a new extra-lightweight composite material, known as X-lite. At this stage it was thought that the material could be used in the commercial production of ski helmets. Further supplies of X-lite were produced in December 2008 and prototype helmets were manufactured and tested during the first three months of 2009. By 31 March 2009, X-treme had successfully concluded this testing phase and established that there was a market for premium ski helmets made from X-lite. The company then spent the remainder of 2009 and start of 2010 making minor amendments to the X-lite production process and helmet design, testing this improved helmet, installing the required machinery to manufacture X-lite on a large scale, and training staff to use this specialised machinery. By 31 January 2010 X-treme was in a position to commence the manufacture of the helmets, and on 1 February 2010, commercial production and sales commenced. Sales of the ski helmets were expected to be constant at 10,000 units per annum for 4 years and then 5,000 units per annum for another 4 years, before a replacement for X-lite was found.

Discussion points

Pre-workshop exercise 4

LP reference

Chapter 8, Sections 3 and 5

Key learning points

The pre-workshop exercise will lead on to the second workshop exercise. At this stage, students need to be aware of the **cash cycle** and the implications for investment and cash flow of inefficient working capital management.

Students should also demonstrate an awareness that ratios based on limited amounts of information should be treated with caution, but should be prepared to comment on the **deterioration** in the **accounts receivable and inventory turnover periods**, the large amount of **accounts payable** and the apparently low **liquidity ratios**. The investment in working capital is being financed by accounts payable, and the possible reasons for this could be discussed.

End-of-year figures in the statement of financial position are used here to calculate average turnover periods for the year. This assumes that the end-of-year figures are typical for the year as a whole. End-of-year figures are used because this is the only way, with the figures available, to compare working capital turnover ratios and changes in those ratios between 2009 and 2010.

Assumptions:

Inventory turnover period = [Inventory at end of year/Costs of producing handsets] × 365 days

Accounts receivable settlement period = [Accounts receivable at end of year/Operating revenue] × 365 days

Accounts payable payment period = [Accounts payable at end of year/(Costs of leased lines, interconnection and other operating costs)] × 365 days

		2010		**2009**
		days		days
Inventory turnover period	(74/336) × 365	80.4	(56/285) × 365	71.7
Accounts receivable settlement period	(94/ 4,569) × 365	7.5	(69/ 4,127) × 365	6.1
Accounts payable payment period	[760/(30 + 245 + 1,562)] × 365	(151.0)	[695/(26 + 230 + 1,322)] × 365	(160.8)
Cash cycle		(63.1)		(83.0)

The average **cash cycle is negative**, which means that the company consumes its inventory and receives payments from its customers before it pays its own suppliers. Financing from suppliers (accounts payable) exceeds the investment in inventory and accounts receivable.

However, in 2010 although the accounts payable payment period was lower than in 2009, the inventory turnover period increased and the accounts receivable settlement period also increased. This suggests that there may have been some **deterioration** during 2010 in the **efficiency of inventory and receivables management**.

		2010		**2009**
Current ratio	(655/1,891)	0.35	(558/ 1,702)	0.33
Quick ratio	(655 – 74)/ 1,891	0.31	(558 – 56)/ 1,702	0.29

The liquidity ratios have been fairly **constant** between 2009 and 2010. The ratios **seem low**, suggesting a lack of sufficient liquidity. However, low liquidity ratios may be normal in the mobile phone industry. Comparisons should be made with the liquidity ratios of similar listed companies.

It is particularly important to check whether the amount of credit taken from suppliers is typical of the industry. The low liquidity ratios are largely due to the relatively high value of current liabilities.

Another point to note at this stage is that the accounts receivable settlement period has been calculated using the total sales revenue for the year, even though most sales are **cash sales rather than credit sales**. More useful information would be obtained if the annual sales figures for credit sales were available (Note: Information on credit sales will be included in the following workshop exercise.)

It is also important to note in conclusion that working capital ratios are useful as **general guides** and for **monitoring changes over time**. The accuracy of the ratios depends on the nature of the data used, and the extent to which the figures 'above the line' in the ratio calculation are comparable with the ratios 'below the line'. However, large changes in ratios are often indicative of a significant improvement or deterioration in efficiency and the reason for the change should be investigated.

Discussion points

Pre-workshop exercise 5

LP references

Chapter 12 Sections 4 and 13, and Chapter 17 Section 4.

Key Learning Points

The Pre-workshop exercise requires students to make a valuation for a target company, using the **PE valuation method**. To do this, they need to make estimates of a suitable figure for annual **earnings** and a suitable **PE multiple**, allowing for the fact that Lucky Lion is a non-listed company. Students should be expected to make differing valuations, depending on the estimates they used, and a comparison of valuations should be used to make the point that business valuation is not a scientific exercise, but something that depends on **judgement**.

The exercise also requires students to think about **payback** on investments. In this example, the returns from the acquisition of a target company will not pay back within the required seven-year period. However students should also recognise that an **investment in a company is unlike a capital investment in plant or equipment**, because an investment in a company retains value over a long period of time. The acquired company could be re-sold. In comparison, plant and equipment lose value and will not generate returns for longer than their useful operational life. This is why payback can be a much more important consideration for plant and equipment.

The exercise also requires students to think about other **factors** that might affect the price that a company would be willing to pay for an acquisition. **Expected growth** in the business, **strategic value** and **risk and uncertainty** are all important issues to consider.

(a) PE valuation

To make a valuation based on a PE ratio it is necessary to decide:

- a suitable annual earnings figure and
- a suitable PE ratio to apply.

In this example, it might be considered appropriate to use the expected total earnings of Lucky Lion in the current year (HK$ 32 million).

However, choosing a PE ratio for an unlisted company is a matter of judgement. The PE ratios for similar listed companies range between 18.6 and 25.0 (and the **average PE ratio** for the three companies is 21.7).

A lower PE ratio would be appropriate for an unlisted company, possibly 17 or 18.

If a PE ratio of 17 is applied, the valuation of Lucky Lion's equity would be (32 × 17) = HK$ 544 million.

It is important to recognise that PE valuations depend on assumptions about annual earnings and a suitable PE ratio. These assumptions rely on judgement and cannot be regarded as 'accurate'. However, this method of valuation is possibly useful in making an estimate of what might seem a reasonable price that the owners of the target company might expect to receive.

(b) Payback period

If we can assume that Lucky Lion will have no changes in working capital, and capital expenditure equal to its annual depreciation and amortisation charges, its free cash flow in the current year would be HK$ 33 million (= earnings of 32, with net interest charges added back).

Without any growth in annual free cash flow, the payback period would be about **16 years** (544 million/33 million) if an offer price of HK$ 544 million were to be accepted. This **would not meet** the requirement for new capital investments to pay back within seven years.

For this investment to pay back within seven years on a non-discounted basis, the annual growth in free cash flow would need to be very high (about 30% per year for seven years, see workings).

If the company applies its payback policy to this investment, the company should not make the acquisition because the price expected by the owners of the target company would be too high.

However, it can be argued that it is inappropriate to apply a payback requirement to an acquisition of another company. See the answer to part (c).

Workings:

If free cash flow is HK$33 million in the first year, total free cash flows on a non-discounted basis over seven years at an annual growth rate of 30% would be (in HK$ millions):

Year	
1	33.0
2	42.9
3	55.8
4	72.5
5	94.3
6	122.5
7	159.3
	580.3

This is close to the PE valuation of HK$544 millions, and indicates that annual growth in cash flows would need to be about 30% to achieve payback on a non-discounted basis within seven (7) years.

(c) Recommendations

The board of GMHK should consider several different factors before deciding whether to make an offer for the equity of Lucky Lion and the price that might be offered.

It is **inappropriate** to apply a **payback** requirement to an investment in an acquisition. An investment in another company is unlike a capital investment in plant or equipment, because an investment in a company retains value over a long period of time. The acquired company could be re-sold. In comparison, plant and equipment lose value and will not generate returns for longer than their useful operational life. This is why payback can be a more important consideration for plant and equipment.

The board should consider the **strategic value** of the acquisition to the group. If an acquisition is considered essential for **long-term growth**, GMHK should be prepared to pay a **premium** to make the acquisition.

The future growth in the **industry** should also be considered. A high rate of growth would be needed to achieve payback within seven (7) years. However, with a high rate of growth, payback would occur more quickly than with a low rate of growth.

With any major capital investment, the board should consider the risk involved. It should consider the risk in the acquisition strategy, and whether this is acceptable. It should also consider risk and uncertainty in the estimates of cash flows and growth, and perhaps prepare a range of valuations based on different assumptions.

Part D Treasury Operations

Penny Wong is satisfied that there may be inefficiencies in the management of inventory and accounts receivable, and she has asked you to prepare a presentation for the senior management of the finance department of GMHK on these issues.

She is more worried, however, about the concerns of the head of the company's treasury department about the company's cash flow and the size of dividend payments to the parent company. She thinks that a presentation should be made to the board of GMHK, to bring the attention of the directors to this matter.

You should divide into four groups to discuss each of the following four requirements. You should refer to the information in the pre-workshop exercise as well as the additional information provided below.

Case A (Inventory Management)

The analysis of working capital management shows that inventory levels are too high, and that most of the inventory consists of **unsold handsets** amounting to HK$ 16 million. These are held in the retail outlets and also in the manufacturing subsidiary.

Required

You should prepare a presentation for the senior management of the finance department of GMHK which deals with the following issues:

(a) The consequences for GMHK of holding excessive inventory levels

(b) Measures that might be taken to reduce inventory levels below their current level, and to maintain them at lower levels in the future

(c) The financial benefits that GMHK might expect to obtain from reductions in inventory. The financing cost is currently 3% p.a.

Case B (Receivables Management)

A sales campaign to sell services to corporate customers in specially-negotiated deals began in 2008 and continued into 2009. Customers were offered credit of up to 30 days. The sales campaign was given less prominence from the end of 2009, although the company continues to negotiate these deals. Your team found out that the total value of **credit sales** in 2009 was HK$ 900 million, and in 2010 was HK$ 905 million. The small increase in this type of sale was attributed to the reduction in the sales effort during 2010.

You are aware that Penny Wong thinks that accounts receivable are not a significant problem, because credit sales are a small percentage of total sales and the cost of putting more resources into receivables management might not be justified by the benefits from improvements in efficiency and performance.

Required

You should prepare a presentation for the senior management of the finance department of GMHK which deals with the following issues:

(a) A comparison between accounts receivable at the end of 2009 and accounts receivable at the end of 2010.

(b) Reasons why accounts receivable might be too high.

(c) Measures that might be taken to reduce accounts receivable to a more efficient and acceptable level.

(d) An estimate of the possible savings that might be obtained from more efficient receivables management.

You may wish to refer to information in the pre-workshop exercise for the purpose of this presentation.

Case C (Cash Forecast)

You are required to prepare a presentation to the board of GMHK about the expected cash position of the company in the first half of 2011. Your presentation should be based on the following data gathered by the head of the treasury department.

At the beginning of 2011, the head of the treasury department looked at the cash flow position of the company for the first six months of the year. He was surprised to discover that the company would **not** be as **cash-rich** as he had expected.

He made the following estimates for the six-month period. Budgeted revenue for the period was HK$ 2,400 million and budgeted operating costs excluding depreciation and amortisation were HK$ 1,500 million.

The parent company had notified Golden Monkey Mobile that it would require the payment of a dividend of HK$ 480 million in March. A tax payment of HK$ 280 million would also have to be made in the period.

The company was committed to developing its 3G network, and capital expenditure during the six month period would be at least HK$ 410 million.

After extensive discussions with major suppliers, the company had agreed to pay invoices much more quickly than in the past and the board has set a target of reducing accounts payable by 25% from its level at 31 December 2010. This target would be achieved by 30 June 2011.

The board had also approved a major advertising campaign which had not been provided for in the budget, to run during April 2011. The expected total cost of the campaign was HK$ 40 million. In addition, the company was required to pay HK$ 15 million to settle a legal dispute and pay a related fine to the authorities for causing environmental damage. This also had not been included in the budget.

The head of treasury is aware that the company has a large amount of cash on deposit with its banks, but most of this is on a 12-month deposit that will not mature until later in the year. It may be possible to withdraw this cash before the maturity date for the deposit, but this would involve loss of interest for the full 12-month period and the payment of an arrangement fee to the bank.

Required

Prepare a presentation for the board of GMHK on the cash flow position of GMHK in the first half of 2011.

(a) **You should use the information provided and make any other assumptions that you consider appropriate to prepare a cash flow forecast as at 1 January 2011 for the period to 30 June 2011.**

(b) **You should comment on the situation indicated by your forecast and its implications for GMHK, and recommend what the company might do to deal with any problems your analysis has revealed.**

Case D (Dividend Policy)

Following the presentation in Part C, the board of Golden Monkey Mobile are concerned about the **weak cash flow position** of the company, and they are of the opinion that the parent company is demanding dividend payments that the company cannot properly afford, given its commitment to grow the business. It believes that dividend payments should be limited to what the company can afford. At the moment the parent company has a policy of requiring Golden Monkey Mobile to pay an annual dividend that increases each year by the same percentage amount as the company's growth in revenue.

The CEO (Matthew Xu) and CFO (Penny Wong) of Golden Monkey Mobile have arranged a meeting with the CEO (Michael Yip) and CFO (David Chan) of the parent company, to discuss a proposal that the parent company should in future change its dividend policy.

Required

(a) From the information in the case study materials, and making any assumptions you consider appropriate, estimate the amount of dividend payments by GMHK to the parent company in 2010.

(b) Suggest the arguments that could be made by Matthew Xu and Penny Wong of Golden Monkey Mobile, in favour of variable dividend payments based on what the company can afford.

(c) Suggest the arguments that could be made by Michael Yip and David Chan, from the parent company in favour of a fixed or growing dividend payment from Golden Monkey Mobile each year.

Your group will be required to present the respective arguments of the board of GMHK (Part (b)) and the parent company (Part (c).) When these arguments have been presented, you should discuss which arguments are stronger and beneficial for the group as a whole.

Discussion points

This exercise requires students to look at a number of different aspects of treasury management: **inventory management, accounts receivable management, cash flow forecasting, cash management and dividend policy**. The answers provided by students will indicate their understanding of these different issues.

There are four different exercises or Cases. For the first two, the exercises call for presentations to the senior management of the finance department, since the scale of the problem is probably not sufficient to justify a presentation to a higher level (the board of GMHK).

All four exercises combine a small amount of computational work with a discussion of the financial, management and strategic issues.

Case A

LP references

Inventory ratios and inventory management are covered by LP references Chapter 8 Section 5 and Section 6.

Key learning points

Students need to recognise that there are **costs associated with high levels of inventory**. Finance costs are an important aspect of costs for many companies, although perhaps the cost is relatively small in the case of GMHK. In this Case Study, there are also costs associated with obsolete inventory. Students may also mention other costs, such as the costs of operating warehouses or storerooms for inventory. The exercise also requires students to suggest how inventory levels might be reduced: **the sale of 'old' inventory at discount prices should be a key suggestion**.

Although there is no 'correct' answer to any of the Cases, students should be expected to produce estimates of the possible benefits of improvements in inventory management.

A presentation to the senior management of the finance department might cover the following points.

(a) Mobile phone handsets have a **limited life cycle** and become 'obsolete' fairly quickly. If the average turnover period for inventory is long, there will be a high risk of holding obsolete inventory. Obsolete inventory, if unsold, will eventually have to be written off as a charge against income.

There is also a **finance cost** in holding excessive amounts of inventory.

(b) **Measures** to reduce inventory levels:

(1) Encourage retail outlets to **sell old models** of handset at a large discount, to attract buyers, or to include older models of handset in subscription renewal offers (although customers may demand more recent handset designs).

(2) Investigate the possibility of **just-in-time** manufacturing systems. If handsets are produced to order, instead of in large batches, it would be possible to reduce inventories held by Tiger Handsets. However, it may not be possible to produce handsets in smaller batches without incurring higher batch-related overhead costs, and smaller orders may result in higher order-related distribution costs.

(3) It may be possible to encourage customers to order handsets in **advance of delivery** to the retail outlets, so that they can be passed on to customers as soon as they are delivered to the retail outlets.

(4) **Better inventory control.** Management should monitor the demand for handset models and the estimated life cycle of models, to avoid production of handset models that will soon become obsolete.

Recommendation

Retail outlets should have **regular sales of older handset models at a large discount** to market value (and probably at a discount to cost).

Measures should be taken if possible to reduce inventory levels. Tiger Handsets and the retail outlets should try to avoid duplicating their holdings of inventory, when handsets could be held in a single location for all the retail outlets.

Possible financial benefits

The financial benefit from selling older models at a discount is that selling the handsets will earn some revenue, whereas writing off the inventory as obsolete would cost the same but have no benefit. If, say, 75% of the HK$ 16 million inventory that is currently written off could be sold at 50% of cost, the benefit to GMHK would be (16 million × 75% × 50%) HK$ 6 million.

Reducing inventory levels would offer some opportunities for savings, but the amount of potential savings is difficult to quantify without investigating the measures that could be taken, other than selling off older models at a discount. The value of inventory at the end of 2010 was HK$ 74 million, representing about 80.4 days of manufacturing (= the inventory turnover period in 2010: your calculation may be different). If this could be reduced by, say, 20%, the reduction in inventory would be HK$ 14.8 million. A reduction in current assets would provide an improvement in the cash position of GMHK, and this will provide a benefit in terms of interest cost saving or interest income. At 3% interest, say, this would be worth HK$ 444,000 each year.

Case B

LP reference

The receivables turnover ratio and receivables management are covered by LP references Chapter 8 Section 5 and Section 7.

Key learning points

This exercise requires students to identify the **reasons why accounts receivable might be high**, the possible consequences of a high level of receivables and measures that might be taken to improve the efficiency of receivables management. The answers will probably follow 'text book' guidance.

The data for Case B introduces some important **new material**, which is the value of **credit sales** in 2009 and 2010. This information can be used to re-calculate the average time for settlement.

Students may also comment on the small growth in credit sales in 2010 compared with 2009, and may suggest that strict credit terms may be a reason for the low rate of growth. Opinions on this point may differ.

A presentation to the senior management of the finance department might cover the following points.

(a) The accounts receivable settlement period can be calculated using total credit sales in each year.

2010: (94/905) × 365 = 38 days

2009: (69/900) × 365 = 28 days.

These figures show that there has been an increase in the length of credit taken by customers, and the average settlement period is now longer than the maximum credit allowed (30 days) under the terms of the agreements with customers.

Although the total amounts may seem small in comparison with the size of the company's total turnover, increases in the average settlement period, in excess of agreed credit periods, are an indication of **poor credit management**.

(b) Accounts receivable are generally too high when collection procedures become less efficient, and customers are not 'chased' for payment of overdue amounts. (In some cases, inefficiency may be caused by delays in sending out invoices.)

(c) In the mobile phone business, many customers pay regularly each month and on the agreed day. For most customers, there should be no amounts receivable. The receivables in the statement of financial position may therefore relate to **business customers** who are given credit. GMHK may give credit terms to business customers to encourage sales growth in the business sector market for mobile phone services.

It could be argued that 30 days' credit might not be sufficient to attract customers into negotiating deals, and this could explain the low growth in credit sales in 2010. A longer credit period might help to stimulate credit sales.

(d) The consequences of an increase in the amount of receivables and the length of the payment period is that the company may eventually have to write off some amounts as uncollectible, as a charge against income.

(e) **Measures to improve** the accounts receivable settlement period should include:

- Better credit checking procedures
- Strict policies on agreeing credit terms with customers
- Monitoring overdue payments, through aged receivables analysis
- Procedures for chasing overdue payments (reminder letters, telephone calls)
- Making the credit control manager accountable for poor performance
- Offering a discount for early settlement.

(f) The potential benefits from better receivables management can be estimated.

- Better receivables management should improve the success rate in collecting amounts receivable. A reduction in amounts written off from, say 1.5% to 1% would provide savings of HK$ 4.525 million ($905 × 0.5%) a year on annual credit sales of HK$ 905 million.

- Using 2010 figures as a basis for calculation, a reduction in the settlement period from 38 days to 30 days would reduce amounts receivable to (30/365 × 905 million) = HK$ 74.4 million from the end of 2010 level of HK$ 94 million. This would be a reduction of HK$ 19.6 million, which would improve the company's cash flows. Using an interest rate of 3%, the potential benefit of such a reduction in the settlement period would be about HK$ 588,000 ($19.6 million x 3%) per year.

- A separate matter that management may wish to consider is the length of the credit offered. Longer credit terms might result in higher annual sales revenue. There would be some cost in terms of a higher investment in receivables and possibly a bigger write-off each year for uncollectible amounts. Even so, if receivables management is efficient, the higher gross profit from additional sales might exceed the extra costs of the additional write-offs and the additional investment in receivables.

Case C

LP reference

The LP reference is Chapter 8 Section 9 for cash forecasting.

Key learning points

Students must demonstrate an ability to prepare a simple cash flow forecast from information provided. Most of the exercise is a computational exercise, but students must be able to make some comment about what the forecast shows and perhaps suggesting how the expected cash flow shortage might be dealt with. **The focus** should be on **dividend payments** to the parent company, payments for **capital expenditure** (possibly) and the planned **reduction in payables**.

Your presentation to the board of GMHK should show the details of the expected cash shortage in the first six months of 2011. Calculations are shown in the following table.

Part (a)

(Figures in HK$ millions)

Estimated cash flows, first six months of 2011		
Revenue		2,400
Operating costs, excluding depreciation and amortisation		1,500
EBITDA		**900**
Dividend to parent company	480	
Taxation payment	280	
Capital expenditure	410	
Reduction in accounts payable (25% × 760)	190	
Advertising campaign	40	
Legal costs	15	
Net interest costs, estimate based on 2010 [(11-21)/2]	5	
		(1,420)
Excess of cash spending over cash income		**(520)**
Cash available at 1 January		118
Cash deficit		**(402)**

It is assumed that there will be no change in current assets or current liabilities, except for accounts payable and cash balances.

Part (b)

There is an **expected cash deficit**, which is very large. The company has HK$ 233 million (see the Case) on deposit, and could obtain release of this money from its bank(s), although there would be an administration charge and loss of interest.

Even so, there would still be a substantial cash deficit. This must be financed somehow, or measures must be taken to reduce the expected deficit.

Expenditures and payments that might be reduced may be the reduction in payables, the dividend payment to the parent company and capital expenditure payments.

It is not clear whether the expected cash deficit in the first six months of 2011 is an unusual event, that is not expected to recur, or whether it is likely to happen again, for example in the first six months of the next year.

Conclusion

Your presentation should make the points that:

- A cash shortage is expected
- The most significant reasons are the **dividend payment**, **capital expenditure payments** and the **reduction in payables**
- The company will need to raise cash unless ways of reducing the expenditures can be found.
- The amount of cash required will depend on the measures that can be taken to reduce payments and a decision about whether to draw on the cash held on 12-month deposit.
- Even so, unless the dividend payment can be significantly reduced, some cash shortage may be inevitable.

  (Note: Students may disagree with these conclusions, but should be able to present good arguments.)

Case D

LP references

Dividend policy is covered in Chapter 10. LP references are Chapter 10 Sections 1, 3 and 4.

Key learning points

Part (d) considers dividend policy. The dividend payment to the parent company will contribute to the cash flow deficit in the first half of 2011, and the cash flow problem could be eliminated if the dividend payment is reduced to what GMHK can afford. However the problem should be considered from the point of view of the parent company as well as GMHK, and the exercise will encourage students to consider the problem from **both points of view**.

The estimate of the amount paid in dividend in 2010 should not present students with much difficulty. If it is assumed that there were no movements in reserves in 2010 except for the increase in the accumulated profit reserves, the estimate of dividend payments can be made from the opening and closing reserves balances and the income after tax for 2010.

Part (a)

You should calculate the amount of dividend payments in 2010 before going on to consider the arguments that may be put forward by the board of GMHK and the board of CGMM.

Estimate of dividend payments to the parent company in 2010:

It is assumed that there were no movements in the reserves of GMHK in 2010 except for the increase in the accumulated profits reserve.

(Figures in HK$ millions)	
Reserves at the end of 2009	2,808
Profit after taxation in 2010	1,460
	4,268
Reserves at the end of 2010	(3,222)
Dividend payments in 2010	**1,046**

This shows that dividend payments during 2010 were equal to 71.6% ($1,046/$1,460) of the profit after taxation of GMHK for the year. This is a large amount.

Part (b)

Arguments that could be made by GMHK

In discussions with the board of CGMM, the following arguments might be made by the directors of GMHK.

- GMHK will be short of cash in the first six months of 2011. This is partly because of its **commitments** to capital expenditure and partly because of the size of the dividend payment to the parent company.
- In particular, the dividend payments are over 70% of the annual profits of GMHK. This is very high. The expected cash deficit could be eliminated by reducing the dividend payment.
- GMHK should not restrict its capital investment programme, because its capital investments will add value to the group.
- It may be possible to defer some capital expenditure until later in the year, but this will be damaging strategically, and will allow competitors to develop their rival networks more quickly.

Part (c)

Arguments that could be made by the parent company

In discussions with the board of GMHK, the following arguments might be made by the directors of CGMM.

- The management of GMHK should have identified the cash flow problem earlier and taken measures to deal with it.
- GMHK can borrow to cover the cash deficit.
- It is not clear why the company has decided to reduce its payables by 25% in such a short period of time. This affects cash flows substantially.
- The parent company needs predictable cash flows from its subsidiary so that it can plan its own dividend policy and capital expenditure programme. If GMHK remains profitable and grows successfully, the parent company should expect dividends every year that grow at a similar rate to the growth in revenue and profits.

There is no 'correct' argument. The directors of GMHK can argue correctly that the payment of very large dividends prevents GMHK from using its cash income to develop and grow the business. The directors of CGMM can argue that CGMM owns GMHK, and the board of directors of CGMM should decide how to use the group's cash resources in a way that is most beneficial for the group as a whole.

Part D Treasury Operations

The board of Golden Monkey Mobile has been authorised by the board of the parent company to issue commercial bonds to raise cash resources for its expansion plans. There have been discussions with the company's financial advisers, who have indicated that there should be sufficient interest in the bond issue from investors, although there would not be a large and liquid secondary market in the bonds after issue.

Most of the board members of GMHK are not familiar with the bond markets, and at a board meeting, they agreed that there should be a special presentation about bonds to answer some of their questions.

Penny Wong has asked you to prepare a presentation, which answers some specific questions that have been raised by some directors and which also provides a helpful guide to **bond pricing**.

Your presentation should cover the following requirements.

Required

(a) One of the directors of GMHK has been told that a rival company, Tele Hong Kong issued eight-year 6% fixed rate bonds exactly one year ago. The bonds pay interest every six months, and the second interest payment has just been made. The current market value of these bonds is 112.13. He wants to know:

(1) why the price of these bonds is so high and what a price of 112.13 signifies
(2) whether GMHK would be able to issue eight-year 6% bonds at 112.13.

(b) Another director wants to know (i) what price could be obtained for seven-year bonds if they were issued with a fixed coupon of 5% with interest payable every six months. (ii) He also wants to know whether it would be better for GMHK to issue three-year bonds because he has heard that the coupon on these bonds might be as low as 4%.

(c) After answering these specific questions, you should explain to the board the factors that would be considered by the company's financial advisers when deciding on the price at which to offer the bonds to investors.

Discussion points

For the purpose of this exercise, it is assumed that GMHK may decide to make a bond issue on HKEx. As it is not a listed company, it would have to obtain a **listing** for the bonds, and meet the criteria for listing in the HKEx Listing Rules. Students may wish to comment about this, for example by suggesting that it would make **more sense** for the parent company to raise the bond finance and transfer the money to GMHK as an **internal loan**.

The specific questions raised by two of the board members of GMHK are concerned with the **pricing of bonds**. Students are required to demonstrate their understanding that bond prices are the present value of future payments on the bond, discounted at the market yield for those bonds.

The final part of the exercise requires students to identify the factors that determine the yield/price of a newly-issued bond. This part of the answer should be largely '**text book**' in nature, but students need to have a reasonable understanding of the bond markets and how they operate.

LP reference

The LP reference is Chapter 17 Section 7. Students may also wish to read about long-term debt in Chapter 9 Section 7.

Exercise 2:

Your presentation should cover the following points.

Introductory points

GMHK would need to obtain a listing for the bonds, and should be advised by a sponsor in making the application and other arrangements for listing.

The **bond price** will depend on the **bond yield that investors will require** (to persuade them to buy the bonds) and the **term of the bonds**. Bond prices vary inversely with the yield.

(a) The questions from the first director

The eight-year (8) bonds issued by **Tele Hong Kong** now have **seven years remaining** to maturity. This means that there will be 14 six-monthly interest payments and redemption of the bond capital at the end of the seventh year. The market price of 112.13 reflects the value that bond investors put on those future cash flows.

A market price **above 100** means that **the bond is paying a rate of interest that is higher than the interest yields** currently expected on seven-year bonds issued by companies such as Tele Hong Kong. **Current (Actual) market yields** are therefore **lower than 6%** on these bonds.

The **actual market yield** on these bonds can be calculated as the **internal rate of return** on the future cash flows. Calculations of the IRR may differ slightly, depending on whether a calculator or DCF tables are used to make the calculation. The calculations below show that the six monthly yield is 2%.

Period		Amount	Discount factor at 2%	Present value
1 - 14	Interest payment	3.00	12.11	36.33
14	Redemption at maturity	100.00	0.758	75.80
				112.13

A 2% yield every six months is the equivalent of a **4%** annual yield (approximately).

If GMHK were to issue eight-year bonds at 6%, its price would not be 112.13. This is because the yield on the eight-year bonds would not be the same as the current yield on seven-year bonds. Other factors may also mean that the yield on bonds issued by GMHK would differ from the yield on bonds issued by Tele Hong Kong. For example, if bond investors considered the credit risk to be different between GMHK and Tele Hong Kong, they would require a higher yield from the company that is the higher credit risk.

Note: It is important to understand how bond valuations are determined in the market. Suppose that GMHK issued 8-year bonds. The issue price will depend partly on the coupon rate of interest that is paid on the bonds (a rate of 6% is suggested in this case) and partly on the yield that investors require. For 8-year bonds, investors may require a higher yield than on 7-year bonds. It is considered 'normal' for the yields on longer-dated bonds to be higher than on shorter-dated bonds. So the yield required on 8-year bonds of GMHK might be, say 4.4% (= 2.2% each six months).

If the required yield on 8-year bonds is 4.4%, and the coupon rate of interest paid on the bonds is 6%, the issue price of the bonds would be established as follows:

Period		Amount	Discount factor at 2.2%	Present value
1 - 16	Interest payment	3.00	13.367	40.10
16	Redemption at maturity	100.00	0.706	70.60
				110.70

(b) The questions from the second director

(i) If GMHK were to issue **7-year bonds** with a coupon of **5%**, the issue price would depend on the yield required by investors. If we assume that the yield would be **similar** to the current yield on the Tele Hong Kong bonds, **4%** on an annual basis so 2% on a six month basis, the approximate issue price would be **106.08**, calculated as follows.

Period		Amount	Discount factor at 2%	Present value
1 - 14	Interest payment	2.50	12.11	30.28
14	Redemption at maturity	100.00	0.758	75.80
				106.08

(ii) A lower coupon on **3-year bonds** does not mean that the issue price of these bonds would be higher or lower than the issue price of seven year bonds at 5%. This is because the issue price of the bonds depends partly on the coupon rate of interest but also partly on the yield required by investors in the bonds.

However, in this case the issue price of the 3-year bonds is likely to be less than the issue price of 7-year bonds. This means that the company will have to issue more bonds to raise the money that it needs.

For example, suppose that GMHK issued 3-year bonds with a coupon rate of interest of 4%, and investors required a yield of 4% on these bonds (2% every six months.) The bonds would be issued at par (= 100). The calculation is shown below.

Period		Amount	Discount factor at 2%	Present value
1 - 6	Interest payment	2.00	5.60	11.20
6	Redemption at maturity	100.00	0.888	88.80
				100.00

The company would have to issue more bonds at 100 than bonds with a higher coupon at a higher issue price of 106.08, but it is probable that total interest payments (cash payments) on the 4-year bonds would be less than interest payments on the 7-year bonds.

These lower interest rates would be enjoyed for three years. At then end of the three years, GMHK would need to borrow again for a further four years, and by this time interest yields on bonds might have risen or fallen from where they are now – depending on changes in the market over the three-year period.

The coupon of 4% would be lower than the coupon on 5% bonds issued for seven years, which means that interest costs would be lower for the first three years. However, a comparison between the merits of a 3-year bond at 4% and a 7-year bond at 5% depends on:

(1) The nominal value of the bonds that would have to be issued in each case, and the total interest costs payable on each bond for the first three years

(2) For how many years does GMHK require the bond finance? If the bond finance is needed for seven years, it would be more prudent to issue 7-year bonds because there would be no re-financing risk. If the company needed the finance for seven years but issued 3-year bonds, it would have to refinance after three years, and at this time it might be difficult to raise bond finance or interest costs might be higher than they are now. However, if the finance is needed for only three years, it would make sense to issue 3-year bonds.

(c) Factors to consider when deciding the bond price

The market value of a bond is the **future cash flows to maturity** that bondholders will expect to receive, discounted at the required yield.

The following points should be made:

The **yield** will depend on:

- the **term** of the bonds: higher yields might be expected by investors on longer-dated bonds
- the **credit rating** for the bonds, assuming that the bond issue will need a rating from at least one credit rating agency. The rating for the bonds may be the same as the rating of bonds issued by the parent company, provided the parent company guarantees the debt of its subsidiary
- the expected **liquidity** for the market in the bonds after issue: higher yields will be demanded on bonds with less liquidity
- the **seniority** of the debt: yields will be lower on senior debt than on subordinated debt.

The yield would also vary if the bonds were convertible into equity, or were issued with warrants attached.

Part E Corporate Finance

The board of GMHK has agreed to review the proposal to acquire **Lucky Lion Handsets** using a different approach to making a valuation. The board recognises that the acquisition of a handset manufacturer would provide the company with opportunities for long-term growth, and the policy of requiring payback within seven years was inappropriate for this important strategic initiative.

There have been discussions with the owners of Lucky Lion about a valuation of the company's equity, and it seems likely that the owners would accept a bid in the region of HK$ 550 million.

Penny Wong has asked you to provide an estimated value of Lucky Lion Handsets based on different figures from those in the pre-workshop exercise. Your estimate will be presented to the board of GMHK.

(1) The expected results in the first year after acquisition would be similar to those for the current year, as set out in the pre-workshop exercise.

(2) There will be strong growth in annual sales and profits due to the fact that Lucky Lion will be able to sell handsets to other subsidiaries in the China Golden Monkey Mobile Group as well as expanding sales to external mobile phone operators.

(3) Long-term growth in annual **free cash flow** should be in the region of at least 6% to 8% each year, for the foreseeable future, with four exceptions:

- Working capital would have to increase by HK$ 5 million each year to support the growth in sales volumes.
- Capital expenditure would have to exceed the annual charge for depreciation and amortisation by HK$ 10 million each year for the foreseeable future, to sustain this annual growth rate.
- If Lucky Lion Handsets is acquired, the owners will take out all the cash from the company but will not repay any of the company's debt capital. Annual interest payments on the current long-term debt would be HK$ 4 million.
- There should be savings of HK$ 8 million in administration costs each year as a result of the acquisition.

(4) It has been estimated that the weighted average cost of capital for GMHK is 10% and its cost of equity is 12%.

(5) It is assumed that the rate of taxation on profits will be 16.5% for the foreseeable future.

Members of the GMHK board have made the following comments.

(1) There is a possibility that if GMHK do not acquire Lucky Lion in the near future, a rival mobile phone operator in PRC and Hong Kong might try to acquire it.

(2) A higher rate of growth in earnings and free cash flows could be achieved by investing heavily in new plant and equipment after acquiring Lucky Lion. It has been suggested that with additional investment, annual growth in the cash flows of Lucky Lion might be 15% or more for at least seven years.

You should divide into groups to discuss the requirements of this exercise.

Required

(a) **Prepare a valuation for the equity of Lucky Lion Handsets using the information in this handout and in the pre-workshop exercise, using the discounted cash flow method of valuation and forecasts of free cash flow (FCFF).**

(b) **Compare the valuation produced using your FCFF approach and the valuations that you prepared in the pre-workshop exercise (individually) using the P E valuation method. The board of GMHK are aware of this valuation.**

(c) **On the basis of your valuation, make a recommendation to the board of GMHK, taking into consideration the views expressed by members of the board.**

(d) **Explain how your valuation and recommendations would have been different if Lucky Lion Handsets had been a listed company with equity shares listed on HKSE.**

Discussion points

This exercise looks at methods of valuation for **non-listed** companies for the purpose of making a takeover offer. **A PE multiple valuation** was prepared by students in the pre-workshop exercise, and students will have produced a range of valuations using this method. The groups are now required to prepare a **FCFF valuation**.

Students should then compare their FCFF valuation with a PE valuation, and recognise the problems with both methods. An alternative valuation based on market value is included in part (d) in order to give a more comprehensive knowledge to students.

LP references

The LP reference is Chapter 17 Section 5. They may also wish to remind themselves about PE valuations and the reference for this is Chapter 17 Section 6.1. Comparisons of valuation methods are discussed in Chapter 17 Section 8.

Part (a): FCFF Valuation

Key learning points

To prepare a FCFF valuation, students need to decide:

- **How to produce a valuation**: the suggested solution here suggests a valuation based on FCFF growth in **perpetuity**, but student groups may use a different approach (such as a valuation based on a forecast over the **next few years**).
- How to produce a sensible estimate of **free cash flow each year**.
- What **discount rate** to apply to obtain a valuation.

The valuation depends on estimates of annual growth. Students might choose to prepare a valuation based on cash flows over a given period of time (say ten years), but a valuation based on cash flows in perpetuity is simpler. Students may also be able to work out that using this valuation model, the discounted payback period can also be calculated.

Valuations by the different student groups could vary widely, but the principles they apply must be sound and the methodology they use must be technically correct.

GMHK is now taking the view that a valuation of Lucky Lion Handsets should be based on a **longer term view** of the cash flows that the acquisition would help to generate, and the **strategic value** of acquiring a handset producer.

An alternative approach to valuation would be to assess the value of the company using estimates of free cash flow and annual growth in perpetuity. This may produce a high estimate for the valuation, but this can be compared with the offer of HK$ 550 million that the owners of the company might be likely to accept.

The figures provided here are based on assumptions and estimates. Other valuations may be produced based on different assumptions and estimates.

Estimate of free cash flow in the first year after acquisition

It is assumed that capital expenditure each year will be HK$ 10 million more than the annual charge for depreciation and amortisation.

	HK$ millions
Revenue	600
Cost of sales	(330)
Gross profit	**270**
Distribution costs	(120)
Administrative expenses (after savings $110 - $8)	(102)
Earnings before interest and taxation	**48**
Taxation (16.5%)	(8)

Profit after tax	**40**
Capital expenditure in excess of depreciation	(10)
Additional working capital investment each year	(5)
Free cash flow in first year available to equity	**25**

The weighted average cost of capital is 10%. The estimated growth rate in revenue – and free cash flow – is estimated to be 6% - 8%.

If the annual rate of growth in perpetuity is 6%, the value of the company would be (in HK$ millions):

25 (**1.06**)/(0.10 – 0.06) = 662.5.

After deducting the debt of the company, the value of equity would be HK$ 562.5 million ($662.5 - $100), which is very close to the price that the owners of Lucky Lion might be willing to accept.

If the annual rate of growth in perpetuity is 8%, the value of the company would be (in HK$ millions):

25 (**1.08**)/(0.10 – 0.08) = 1,350

After deducting the debt of the company, the value of equity would be HK$ 1,250 million.

Part (b): Comparison of Valuations

LP reference

Comparisons of valuation methods are discussed in Chapter 17 Section 8.

Key learning points

This requirement can be dealt with briefly. Students need to recognise that a **FCFF valuation** has some **theoretical justification**, based on the value of companies as the discounted value of the expected future cash flows that they will provide. A **P E ratio valuation**, although very simple, **has no theoretical justification**.

The valuation reached using the FCFF method (HK$ 562.5 or 1,350 million) may be higher or lower than a PE valuation (HK$ 544 million based on PE ratio of 17), depending on the assumptions and estimates used to prepare each valuation.

The **FCFF** is based on **financial theory** and the concept that the **value of an investment is the present value of the expected future cash flows** arising from that investment. The weakness of the method is that it depends on the estimates of free cash flow, growth rates and discount factor.

The **PE valuation** has no theoretical justification. It **depends on judgement** in the selection of a suitable P E multiple and the estimate of a suitable figure for annual earnings takes no account of

expected earnings growth in the future (except to the extent that earnings growth may be assumed from the size of the PE multiple).

[**Note**: Good students should be able to use relevant facts to back up their arguments. Most importantly, the acquired company should create value to the company.]

Part (c): Recommendation

LP reference

In addition to the sections of the LP referred to above, students should refer briefly to Chapter 15 Section 5.

Key learning points

It should be argued that a **reason for making an acquisition**, regardless of price, **should not be for the purpose of preventing a competitor from making the acquisition**.

An issue in this part of the exercise is **whether a company should be willing to pay for the value of its own future investments in an acquired company**. In principle, it should not. By investing in new plant and equipment after the acquisition, GMHK may be able to increase the value of its investment Lucky Lion. However, these future increases in value are not directly relevant to the current value of Lucky Lion at the time of acquisition. New investments after the acquisition should be appraised separately, using normal DCF methods of appraisal.

A brief comparison between acquiring a non-listed company and a listed company is also required in part (d). With a listed company, there is already a market valuation for the company's shares. The takeover would also come within the rules of the Takeovers Code.

A recommendation might be that the value of Lucky Lion Handsets depends on the assumptions that are made about **future cash flows**, and in particular future growth in the business. If growth expectations are fairly low, it might be difficult to justify a price of about HK$ 550 million.

However if the board of GMHK is convinced that the acquisition of a handset manufacturer is important for the **long-term strategic objective** of achieving growth, an offer of HK$ 550 million would be justified.

It is important to recognise that this recommendation is based on a large number of **assumptions** and on judgement. (Your own views might be different.)

The points raised by board members should be addressed as follows.

(1) It would be **inadvisable** to make an acquisition, regardless of price and strategic objectives, for the purpose of **preventing a competitor** from making the acquisition. The value of an acquisition should depend on the value to GMHK. The strategic purpose of an acquisition should be to enhance the value of GMHK, not to prevent other companies from developing their businesses.

(2) In principle, a company should **not be willing** to pay for the value of its **own future investments in an acquired company**. By investing in new plant and equipment after the acquisition, GMHK may be able to increase the value of its investment Lucky Lion. However, these future increases in value are not directly relevant to the current value of Lucky Lion at the time of acquisition. **The value of Lucky Lion should be based on the value of the business at the time of acquisition**, allowing for expectations of future growth that the business might expect without any substantial new additional investment. New investments after the acquisition should be appraised separately, using normal DCF methods of appraisal.

Part (d): Market Valuation

If Lucky Lion Handsets had been a **listed company**, the recommendations would have been **different** in several ways.

- There would be a **market valuation** for the equity shares of Lucky Lion, because of the existence of a market price. GMHK would have to offer a higher price than the current market price to acquire the shares of the company.
- The acquisition would come within the scope of the **Takeovers Code**, and GMHK would be required to comply with the rules of the Code.
- It is a requirement of the HKSE Main Board Listing Rules (Rule 8.08) that there must be an open market in listed securities, and that this usually means that at least 25% of the securities should be held by the public at all time. This requirement continues after the initial listing of the securities (Chapter 13 of the Main Board Listing Rules on Continuing Obligations.) This means that if Lucky Lion were to remain a listed company, GMHK would not be able to acquire more than 75% of the equity. To acquire 100% of the equity in Lucky Lion, GMHK would have to de-list the shares.

[**Note**: Students are encouraged to think outside the box and to recognise the fact that there are limitations in various models of valuation. The key to a successful takeover is whether the acquired company can create value to the group, what is the appropriate purchase price for negotiation, and how to finance the acquisition.]

Part E Corporate Finance

The board of GMHK has decided to go ahead with the acquisition of Lucky Lion Handsets. An offer price of HK$ 550 million has been accepted for 100% of the equity.

GMHK does not have sufficient cash to pay for the acquisition out of its own resources, and a decision has to be made about the most appropriate method of financing.

A new issue of equity shares has been considered. GMHK is not a listed company, so new finance might have to come from the parent company. However, the board of the parent company has indicated that it would be unwilling to raise cash from a new equity issue and lend the money to GMHK, and it would be unwilling to reduce substantially the annual dividend payments from GMHK to CGMM. If CGMM did raise new equity finance it would want to use the money to finance further growth in 3G services on the Chinese mainland.

The parent company would be willing to consider issuing debt securities and making the money available to GMHK in the form of a six-year loan. It could issue six-year fixed rate bonds. Alternatively it could arrange a six-year commercial paper programme for issuing six-month commercial paper. The market for fixed rate bonds is currently not very liquid and the required yield on a six-year issue to raise HK$ 550 million would be 6%. At the moment the commercial paper market is much more liquid and six-month commercial paper can be issued at 3.5%.

Another possibility that has been discussed is for GMHK to seek a listing on HKSE for either new equity shares or its own bond issue.

Penny Wong would have preferred to finance the acquisition from retained profits, but accepts that the company will have cash flow difficulties for the next year or so. She would like to repay any borrowing to finance the acquisition as quickly as possible, from retained profits in future years.

Required

Recommend to the board of GMHK, with reasons, how GMHK should try to finance the acquisition of Lucky Lion Handsets. You should explain why other methods of financing would be less suitable.

Your team has identified the following ways of financing for discussion at the board meeting:

- Net equity issue by the parent company
- Net equity issue by GMHK
- Commercial paper programme
- Bank loan
- Bond issue
- Retained equity

Discussion points

The purpose of this exercise is for students to think about the alternative methods of financing an acquisition, when cash resources are insufficient to pay for the acquisition with cash. The exercise should encourage students to think about whether the finance should be raised by the parent company or by GMHK. In this exercise financing by means of an equity issue is not an option because of the **attitude** of the parent company. The company does not have enough cash to make the purchase out of its own resources, although the CFO wishes that this could be done.

The **choice** is therefore restricted to **different forms of debt capital**, and for **different terms**.

LP references

This exercise covers various aspects of the capital markets and LP references are Chapter 16 Section 3.3 and Chapter 16 Sections 9.2 – 9.4. Students may also find it useful to look at the Exam Practice Question at the end of Chapter 16 and the section on financing mergers in Chapter 18 Section 12. They may also refer to the section on obtaining a listing on HKSE in Chapter 15 Section 5.

Key learning points

Students should try to recognise different methods of financing the acquisition and eliminate those that are not possible. They should then consider the methods that would be possible and to reach a view about which method of financing would be best.

In this case, students may reach the conclusion that a **bond issue**, by either the parent company or GMHK, would be the best choice. (A bank might be unwilling to offer a loan of the size required, and if it did, it might demand security for the loan that GMHK might be unwilling to give.) If they choose this option, good students will also go on to consider the most suitable term for the bond issue, and for differing reasons may recommend an issue of bonds with a **maturity** of about **six to ten years**.

Your own views on this matter may differ. A suggested analysis and recommendation is given below.

There are several ways in which GMHK might try to raise the finance that it needs.

New equity issue by the parent company

An issue of new equity by the parent company has been **vetoed** by the board of China Golden Monkey Mobile (CGMM). The Board of GMHK could try to present an argument in favour of this method of financing, but the board of CGMM has stated that if it did raise new equity finance it would prefer to invest the money to grow the business within PRC.

New equity issue by GMHK

It also seems most **unlikely** that the board of China Golden Monkey Mobile will agree to a listing for GMHK equity shares on SEHK, because it would have to allow a substantial proportion (at least 25%) of the company's shares to be held by the investing general public, and the parent company would lose its 100% control of GMHK.

The acquisition of Lucky Lion would **not** seem to **justify** a decision by CGMM to reduce the size of its investment in GMHK.

Since financing the acquisition by means of new equity finance is unlikely to be acceptable, GMHK should consider borrowing.

Commercial paper programme

A commercial paper (**CP**) programme would involve issuing commercial paper to meet cash flow requirements. CP would have a **maturity of six-months**, and new paper would have to be issued regularly to repay maturing paper. Although the interest rate on CP would be lower than the interest

rate on bonds, there is too much risk that the company will be unable to issue new CP to redeem maturing CP. A CP programme is more **suitable** for financing **working capital requirements** than for financing a long-term capital acquisition.

Bank loan

A medium-term bank loan might be appropriate, provided GMHK can find a bank that would be willing to provide the finance for an acquisition. The company could arrange repayment terms that would enable it to repay the loan gradually over time out of retained profits.

(**Note.** A revolving credit facility, like a CP programme, is better suited to the financing of short-term cash flow requirements than for longer-term financing.)

Bond issue

If a medium-term loan cannot be arranged, or if the interest rate would be too high, the only remaining solution would be to finance the acquisition with a bond issue, either by GMHK or the parent company. The bonds would have to be **listed** to attract investors. The term of the bonds might be as short as **six years** or as long as **ten years**.

GMHK is not highly geared, therefore a bank loan or bond issue would not take its gearing to an unacceptable level.

An issue of bonds could be made by either GMHK or the parent company. An application should be made for a listing for the bonds, and going ahead with the bond issue should be dependent on the probability of obtaining a **suitable price/yield**.

The **maturity** of the bonds should also be considered. The company might want to have accumulated sufficient cash by the time the bonds mature to redeem the bonds with cash, and so reduce the company's gearing. The issue should probably be for the medium-term, in the region of perhaps seven years (or as much as ten years).

Bonds or bank loan? Retained profits?

Penny Wong would like to pay for the acquisition out of the company's own cash flows (retained profits), but this is not possible at the moment, because the company does not have the cash. However, if it is possible to obtain a bank loan for the acquisition, GMHK could pay back the loan principal over time from its operational cash flows. This would reduce the (interest) cost of the finance.

Problems with a **bank loan**, however, are that:

- A bank might be **unwilling** to finance a company acquisition
- The bank might ask for **security** for any loan, which CGMM or GMHK might not be willing to give. Unsecured bonds might be a preferable alternative.

Recommendation

The recommendation (although you may disagree) is that the acquisition should be financed by an issue of **unsecured bonds by the parent company**, possibly with a seven-year maturity. The finance would be raised for the purpose of funding the acquisition of Lucky Lion Handsets.

The amount of finance required should be sufficient to pay for the acquisition and the fees and other costs of the bond issue, unless CGMM or GMHK is able to finance some costs out of their existing cash resources.

Penny Wong has expressed a wish to finance this acquisition out of operational cash flows, but this is not possible at the moment. A longer-term objective may be for the company to try to finance growth from retained profits and to pay for future acquisitions and capital spending from cash resources.

However as the group continues to grow, the board of CGMM should recognise that the **financing structure** of the group should be **a balance between equity and debt that minimises the group's weighted average cost of capital**.

[**Note**: Good students should be able to make a clear assessment of each way of financing and to justify their recommendations with relevant facts in a convincing way given by the case background.]