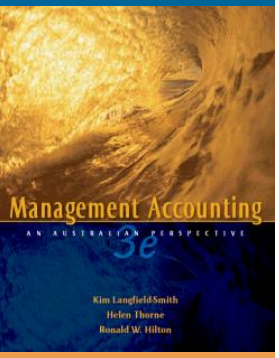
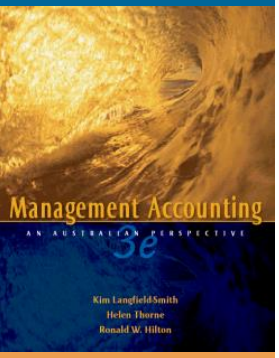


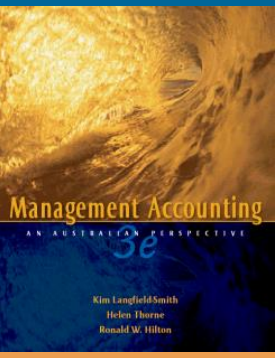
Chapter 13

Financial performance measures for investment centres and reward systems



Financial measures in investment centres

- Summary financial measures are the performance of profit centres and investment centres
  - Return on investment (ROI)
  - Residual income (RI)
  - Economic value added (EVA)



Return on investment

- Return on investment (ROI)
  - Used to measure the performance of an investment centre

$$\text{Return on investment} = \frac{\text{profit}}{\text{invested capital}}$$

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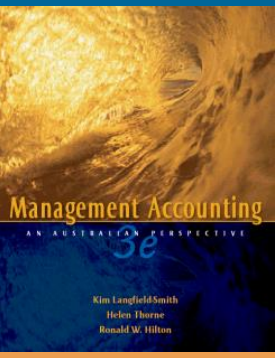

Return on investment

$$ROI = \frac{profit}{investedcapital}$$

$$= \frac{profit}{salesrevenue} \times \frac{salesrevenue}{investedcapital}$$

$$= return\ on\ sales \times investmentturnover$$

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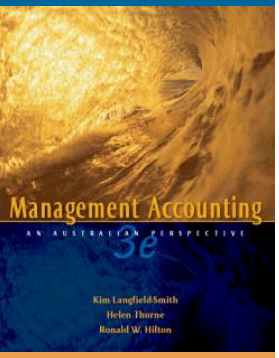

Return on investment

- Invested capital
  - The assets that the investment centre has available to generate profits
- Return on sales
  - The percentage of each sales dollar that remains as profit after all the expenses are covered
- Investment turnover
  - The number of sales dollars generated by every dollar of invested capital

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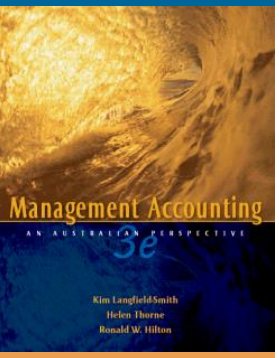
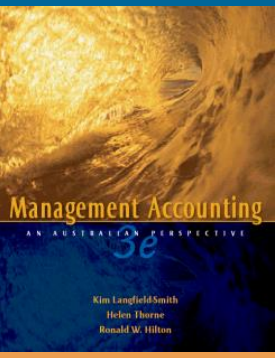


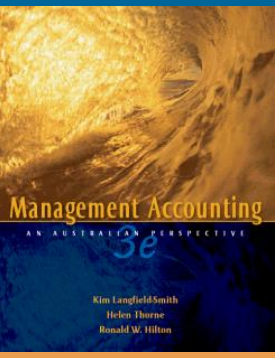
Return on investment

- Improving ROI
  - Increase return on sales—increase selling price or sales revenue, or decrease expenses
  - Increase investment turnover by increasing sales revenue or reducing invested capital
  - Actions that are taken with the *sole purpose* of making these ratios more favourable may have adverse effects on performance in future years



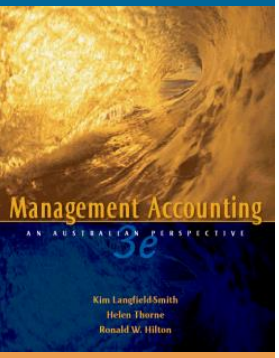
Advantages of ROI

- Encourages managers to focus on both the profits and the assets required to generate those profits
- Can be used to evaluate the relative performance of investment centres



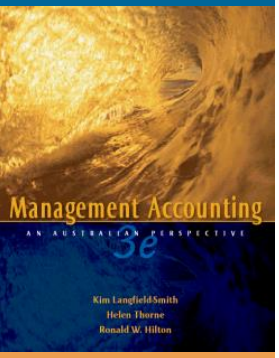
Limitations of ROI

- Encourages managers to focus on short-term financial performance, at the expense of long-term viability and competitiveness
- Encourages managers to defer asset replacement
- Discourages managers from investing in projects which are acceptable from the organisation's point of view, but decrease the investment centre's ROI



Minimising the behavioural problems of ROI

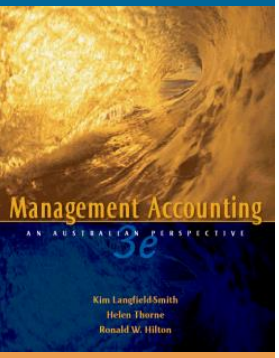
- Use ROI as one of a series of performance measures that focus on both short-term and long-term performance
- Consider alternative ways of measuring invested capital to minimise dysfunctional decisions
- Use alternative financial measures, such as residual income or economic value added



Residual income

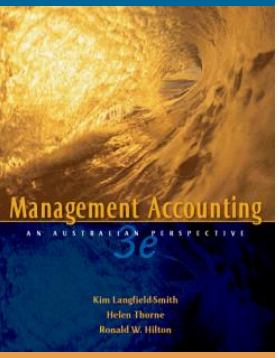
- Residual income
  = profit - (invested capital x imputed interest rate)

- Imputed interest charge: based on the required rate of return that the firm expects of its investments, which is based on the organisation's required rate of return



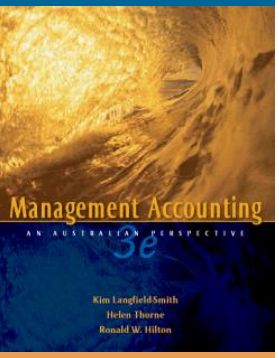
Advantages of residual income

- Promotes goal congruence
- Takes account of the organisation's required rate of return in measuring performance
- Encourages investment in projects which yield a positive residual income



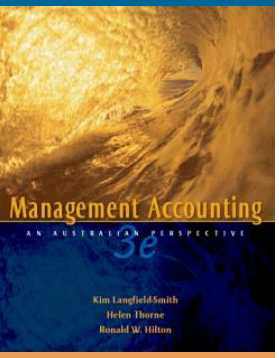
Limitations of residual income

- Cannot be used to assess relative performance of different-sized businesses
- Formula is biased, in favour of larger businesses
- Can encourage short-term orientation/focus



Measuring invested capital

- Total assets: investment centre manager is responsible for decisions about all assets
- Total productive assets: investment centre managers retains non-productive assets
- Total assets less current liabilities: investment centre responsible for decisions about assets + manages short-term liabilities
- Choose average or end-of-year balances



Asset measurement

- Advantages of net book value
  - Consistency with balance sheet prepared for external reporting purposes
  - Consistent with the definition of profit
- advantages of gross book value
  - Depreciation is arbitrary and should not be allowed to affect calculations
  - Depreciating non-current assets may provide a disincentive to invest in new equipment

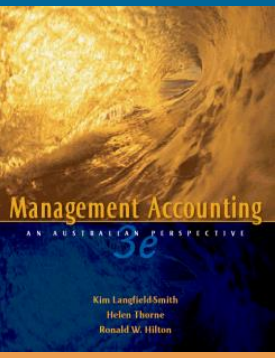


EXHIBIT 13.2 Increase in ROI over time (using net and gross book value)

Acquisition cost of equipment	$500 000
Useful life	5 years
Salvage value at end of useful life	0
Annual straight-line depreciation	$100 000
Annual profit generated by asset (before deducting depreciation)	$150 000

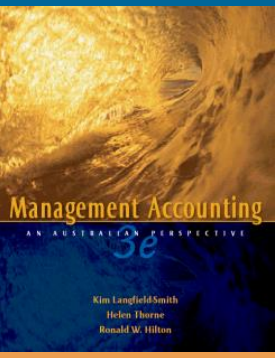
Year	Profit before depreciation	Annual depreciation	Profit net of depreciation	Average net book value*	ROI based on net book value†	Average gross book value	ROI based on gross book value
1	$150 000	$100 000	$50 000	$450 000	11.1%	$500 000	10%
2	150 000	100 000	50 000	350 000	14.3%	500 000	10%
3	150 000	100 000	50 000	250 000	20.0%	500 000	10%
4	150 000	100 000	50 000	150 000	33.3%	500 000	10%
5	150 000	100 000	50 000	50 000	100.0%	500 000*	10%

* Average net book value is the average of the beginning and ending balances for the year in net book value.

In year 1, for example, the average net book value is:

$$\frac{\$500\,000 + \$400\,000}{2}$$

† ROI rounded to nearest tenth of 1 per cent.



Measuring profit

- Profit margin controllable by investment centre manager
  - Suitable when the focus is performance of the manager
- Profit margin attributable to investment centre
  - To calculate the investment centre ROI

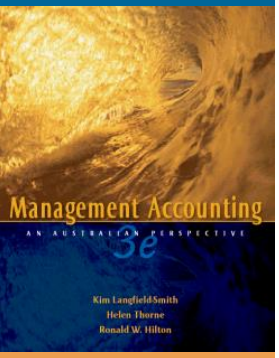
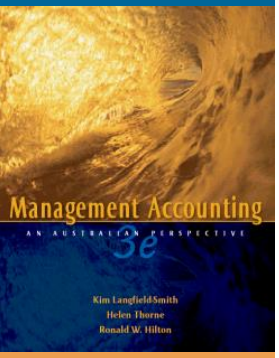


EXHIBIT 13.3 Various definitions of profit

	Sales revenue	$9 000 000
	Variable expenses	3 800 000
(1)	Divisional contribution margin	5 200 000
	Fixed expenses controllable by investment centre manager	1 600 000
(2)	Profit margin controllable by investment centre manager	3 600 000
	Fixed expenses, attributable to investment centre, but controlled by others	1 200 000
(3)	Profit margin attributable to investment centre	2 400 000
	Common fixed expenses, allocated from corporate headquarters	400 000
(4)	Investment centre profit before interest and taxes	2 000 000
	Interest expense allocated from corporate headquarters	250 000
(5)	Investment centre profit before taxes	1 750 000
	Income taxes allocated from corporate headquarters	700 000
(6)	Investment centre net profit	$1 050 000



Measures of shareholder value

- Shareholder value
  - Improving the worth of the business from the shareholders' perspective
- Value-based management
  - Using shareholder value analysis to manage a business
  - A framework for making key business decisions that add economic value to the business
  - Consists of valuation, strategy finance and corporate governance

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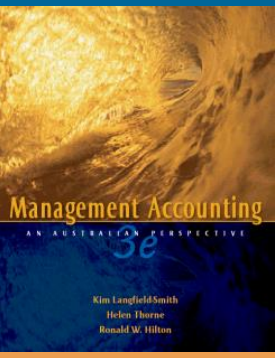

Measures of shareholder value

- Valuation
  - Discounted cash flows (DCF) are usually used to measure value
  - Future cash flows of the business are discounted taking into account the risk associated with those cash flows
  - Value drivers are the activities or actions that create value for a business
    - Include spread, growth, sustainability and cost of capital

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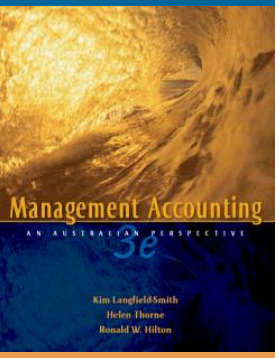

Measures of shareholder value

- Strategy
  - Has a substantial and continuing impact on the value of the business
- Finance
  - Financial policies will influence value creation
- Corporate governance
  - Involves selecting and implementing systems that contribute to value creation

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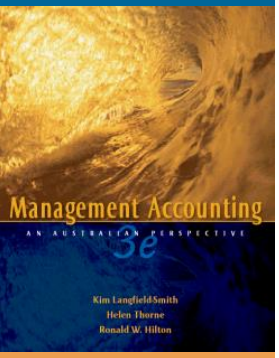

Measures of shareholder value

- Economic value added (EVA)
  - Measure of value created over a single accounting period

EVA® = net operating profit after tax − (capital employed × weighted average cost of capital)[5]

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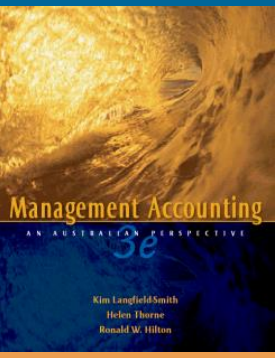

Measures of shareholder value

- To improve EVA
  - Improve profitability without employing additional capital
  - Borrow additional funds when profits earned are more that the cost of borrowing
  - Pay of debt by selling assets
- Limitations of EVA
  - Potential for manipulation and short-term orientation can arise

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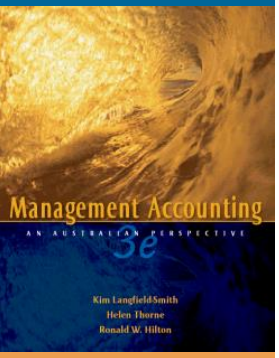
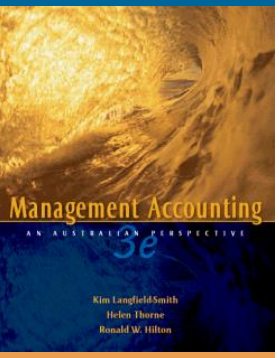


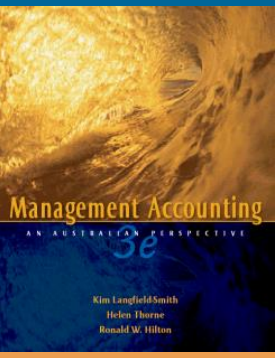
Measures of shareholder value

- Market value added (MVA)
  - The economic value of a firm at a point in time
  - = market value of the company – book value
- Shareholder value added (SVA)
  - = corporate value – the market value of debt



Reward systems

- Processes, practices and systems which are used to provide levels of pay and benefits to employees
- Intrinsic rewards
  - intangible, arise from the positive experiences of being satisfied with performing well
- Extrinsic rewards
  - Given to employees



Theories of motivation

- Herzberg's theory of work motivation
  - Hygiene factors: provide the setting for encouraging employee motivation, but do not themselves motivate employees
  - Motivators: factors that relate to job content and which provide employee motivation

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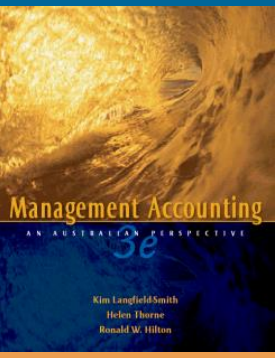
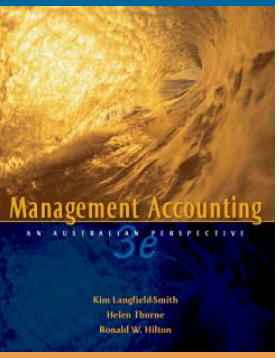


Theories of motivation

- Expectancy theory
  - Employee motivation is a result of the relationships between expectancy, instrumentality and valence
- Motivational theories need to be considered by managers when they are designing reward systems



Performance-related systems

- Performance-related pay systems (incentive compensation schemes)
  - Link employee rewards on achieving or exceeding some performance targets
- Employee share plans (share option plans)
  - Provide employees with the right to purchase shares in their company, at a specified price at some specified future time

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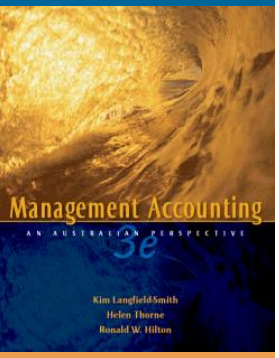

Performance-related systems

- Profit-sharing plans
  - Cash bonuses are paid to each employee, based on a specified percentage of the company's profit
- Gainsharing
  - Cash bonuses are distributed to employees when the performance of the company, or their segment of the company, exceeds some performance target

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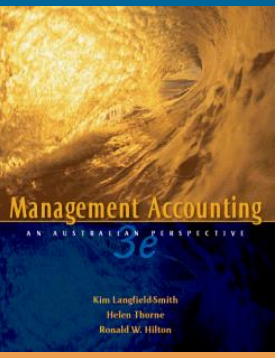
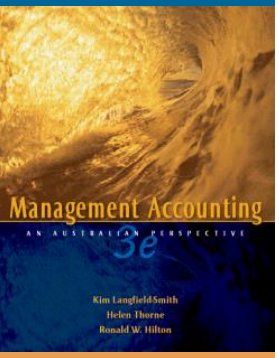


Performance-related systems

- Team-based incentive schemes
  - Individuals are rewarded based on their work, team exceeding certain performance targets
- Individual incentive plans
  - Individuals are rewarded for achieving individual performance targets



Group vs. individual performance

- Consider the following issues
  - Identification with the group
  - Equity among employees
  - Competitiveness between employees
  - Relating individual effort to reward
  - Rewarding only good performers
- The timing of incentive payments can be crucial to achieving desired outcomes