

- 2 (a) The cash operating cycle is the average length of time between paying trade payables and receiving cash from trade receivables. It is the sum of the average inventory holding period, the average production period and the average trade receivables credit period, less the average trade payables credit period. Using working capital ratios, the cash operating cycle is the sum of the inventory turnover period and the accounts receivable days, less the accounts payable days.

The relationship between the cash operating cycle and the level of investment in working capital is that an increase in the length of the cash operating cycle will increase the level of investment in working capital. The length of the cash operating cycle depends on working capital policy in relation to the level of investment in working capital, and on the nature of the business operations of a company.

Working capital policy

Companies with the same business operations may have different levels of investment in working capital as a result of adopting different working capital policies. An aggressive policy uses lower levels of inventory and trade receivables than a conservative policy, and so will lead to a shorter cash operating cycle. A conservative policy on the level of investment in working capital, in contrast, with higher levels of inventory and trade receivables, will lead to a longer cash operating cycle. The higher cost of the longer cash operating cycle will lead to a decrease in profitability while also decreasing risk, for example the risk of running out of inventory.

Nature of business operations

Companies with different business operations will have different cash operating cycles. There may be little need for inventory, for example, in a company supplying business services, while a company selling consumer goods may have very high levels of inventory. Some companies may operate primarily with cash sales, especially if they sell direct to the consumer, while other companies may have substantial levels of trade receivables as a result of offering trade credit to other companies.

- (b) Inventory days = $365 \times 4,500/16,400 = 100$ days
 Trade receivables days = $365 \times 3,500/21,300 = 60$ days
 Trade payables days = $365 \times 3,000/16,400 = 67$ days
 Cash operating cycle = $100 + 60 - 67 = 93$ days

- (c) **Calculation of value of with-recourse offer** In with-recourse factoring, factor undertakes no or limited responsibility of bad debts.

As the factor's offer is with recourse, Bold Co will gain the benefit of bad debts reducing from 0.9% of turnover to 0.6% of turnover.

	Promised by factor in the question \$	
Current trade receivables	3,500,000	← given in the question
Revised trade receivables = $21,300,000 \times 35/365 =$	2,042,466	← New trade receivable balance as a result of factoring.
Reduction in trade receivables under factor	<u>1,457,534</u>	
	\$	
Finance cost saving = $1,457,534 \times 0.07 =$	102,027	← savings in finance cost at overdraft rate of 7%.
Administration cost saving	40,000	← Flat amount given in question
Bad debt saving = $21,300,000 \times (0.009 - 0.006) =$	63,900	← Saving at 0.3% (0.9-0.6) on Sales value, as bad debts are expressed as a % of sales.
Total saving	205,927	
Additional interest on advance = $2,042,466 \times 0.8 \times 0.02 =$	32,680	← Incremental interest rate above overdraft rate applied
Net benefit before factor fee	<u>173,247</u>	← 80% of trade receivables paid in advance.
With-recourse factor fee = $21,300,000 \times 0.0075 =$	159,750	
Net benefit of with-recourse offer	<u>13,497</u>	

- Calculation of value of non-recourse offer** In non-recourse factoring, factor undertakes full responsibility for bad debts.

As the offer is without recourse, the bad debts of Bold Co will reduce to zero, as these will be carried by the factor, and so the company will gain a further benefit of 0.6% of turnover.

	Non recourse factoring is expensive than with recourse factoring.	
Net benefit before with-recourse factor fee	<u>173,247</u>	← Same net benefit as highlighted above.
Non-recourse factor fee = $21,300,000 \times 0.0125 =$	266,250	
Net cost before adjusting for bad debts	(93,003)	
Remaining bad debts eliminated = $21,300,000 \times 0.006 =$	127,800	← Additional benefit from saving 0.6% bad debts that was not available in with-course factoring
Net benefit of non-recourse offer	<u>34,797</u>	

Adjustment to net benefits. →

- (d) The factor's offer is financially acceptable on a with-recourse basis, giving a net benefit of \$13,497. On a non-recourse basis, the factor's offer is not financially acceptable, giving a net loss of \$93,003, if the elimination of bad debts is ignored. The difference between the two factor fees (\$106,500 or 0.5% of sales), which represents insurance against the risk of bad debts, is less than the remaining bad debts (\$127,800 or 0.6% of sales), which will be eliminated under non-recourse factoring. When this elimination of bad debts is considered, the non-recourse offer from the factor is financially more attractive than the with-recourse offer.