

## Full Costing and Variable Costing 2

### Data

$$xp_A := 2100$$

$$xs_A := 2100$$

$$p_A := 98$$

$$mcvar_A := 49.9$$

$$MCOPfix_A := 35280$$

$$xp_B := 4000$$

$$xs_B := 3960$$

$$p_B := 107$$

$$mcvar_B := 49.31$$

$$MCOPfix_B := 46760$$

$$AC := 76326$$

$$SC := 114489$$

### Full costing

$$mcfix_A := \frac{MCOPfix_A}{xp_A}$$

$$mcfix_A = 16.8$$

$$mc_A := mcvar_A + mcfix_A$$

$$mc_A = 66.7$$

$$MCOGS_A := mc_A \cdot xs_A$$

$$MCOGS_A = 140070$$

$$mcfix_B := \frac{MCOPfix_B}{xp_B}$$

$$mcfix_B = 11.69$$

$$mc_B := mcvar_B + mcfix_B$$

$$mc_B = 61$$

$$MCOGS_B := mc_B \cdot xs_B$$

$$MCOGS_B = 241560$$

$$MCOGS := MCOGS_A + MCOGS_B$$

$$MCOGS = 381630$$

$$ac_A := \frac{AC}{MCOGS} \cdot mc_A$$

$$ac_A = 13.34$$

$$sc_A := \frac{SC}{MCOGS} \cdot mc_A$$

$$sc_A = 20.01$$

$$tc_A := mc_A + ac_A + sc_A$$

$$tc_A = 100.05$$

$$ac_B := \frac{AC}{MCOGS} \cdot mc_B$$

$$ac_B = 12.2$$

$$sc_B := \frac{SC}{MCOGS} \cdot mc_B$$

$$sc_B = 18.3$$

$$tc_B := mc_B + ac_B + sc_B$$

$$tc_B = 91.5$$

## Full Costing and Variable Costing 2

$$r_A := p_A - tc_A$$

$$r_A = -2.05$$

$$r_B := p_B - tc_B$$

$$r_B = 15.5$$

Cost-of-sales results accounting (full costing)

$$S_A := p_A \cdot xs_A$$

$$S_A = 205800$$

$$S_B := p_B \cdot xs_B$$

$$S_B = 423720$$

$$S := S_A + S_B$$

$$S = 629520$$

$$TCOGS_A := tc_A \cdot xs_A$$

$$TCOGS_A = 210105$$

$$TCOGS_B := tc_B \cdot xs_B$$

$$TCOGS_B = 362340$$

$$TCOGS := TCOGS_A + TCOGS_B$$

$$TCOGS = 572445$$

$$R_A := S_A - TCOGS_A$$

$$R_A = -4305$$

$$R_B := S_B - TCOGS_B$$

$$R_B = 61380$$

$$R := R_A + R_B$$

$$R = 57075$$

Total cost results accounting (full costing)

$$S_A = 205800$$

$$S_B = 423720$$

$$S = 629520$$

$$IC_A := mc_A \cdot (xp_A - xs_A)$$

$$IC_A = 0$$

$$IC_B := mc_B \cdot (xp_B - xs_B)$$

$$IC_B = 2440$$

$$IC := IC_A + IC_B$$

$$IC = 2440$$

$$TP_A := S_A + IC_A$$

$$TP_A = 205800$$

$$TP_B := S_B + IC_B$$

$$TP_B = 426160$$

$$TP := TP_A + TP_B$$

## Full Costing and Variable Costing 2

$$TP = 631960$$

$$TCOP_A := mc_A \cdot xp_A + ac_A \cdot xs_A + sc_A \cdot xs_A$$

$$TCOP_B := mc_B \cdot xp_B + ac_B \cdot xs_B + sc_B \cdot xs_B$$

$$TCOP_A = 210105$$

$$TCOP_B = 364780$$

$$TCOP := TCOP_A + TCOP_B$$

$$TCOP = 574885$$

$$R_A := TP_A - TCOP_A$$

$$R_B := TP_B - TCOP_B$$

$$R_A = -4305$$

$$R_B = 61380$$

$$R = 57075$$

Variable costing

$$cm_A := p_A - mcvar_A$$

$$cm_B := p_B - mcvar_B$$

$$cm_A = 48.1$$

$$cm_B = 57.69$$

Cost-of-sales results accounting (variable costing)

$$CM_A := cm_A \cdot xs_A$$

$$CM_B := cm_B \cdot xs_B$$

$$CM_A = 101010$$

$$CM_B = 228452.4$$

$$CM := CM_A + CM_B$$

$$CM = 329462.4$$

$$Cfix := MCOPfix_A + MCOPfix_B + AC + SC$$

$$Cfix = 272855$$

$$R := CM - Cfix$$

$$R = 56607.4$$

Total cost results accounting (variable costing)

$$S_A = 205800$$

$$S_B = 423720$$

$$IC_A := mcvar_A \cdot (xp_A - xs_A)$$

$$IC_B := mcvar_B \cdot (xp_B - xs_B)$$

$$IC_A = 0$$

$$IC_B = 1972.4$$

$$IC := IC_A + IC_B$$

## Full Costing and Variable Costing 2

$$IC = 1972.4$$

$$TP_A := S_A + IC_A$$

$$TP_B := S_B + IC_B$$

$$TP_A = 205800$$

$$TP_B = 425692.4$$

$$TP := TP_A + TP_B$$

$$TP = 631492.4$$

$$TCOPvar_A := mcvar_A \cdot xp_A$$

$$TCOPvar_B := mcvar_B \cdot xp_B$$

$$TCOPvar_A = 104790$$

$$TCOPvar_B = 197240$$

$$TCOPvar := TCOPvar_A + TCOPvar_B$$

$$TCOPvar = 302030$$

$$TCOPfix := Cfix$$

$$TCOPfix = 272855$$

$$R := TP - TCOPvar - TCOPfix$$

$$R = 56607.4$$

### Legend

Subscripts A, B for products

- xp = Quantity of goods produced
- xs = Quantity of goods sold
- p = Selling price
- mcvar = Variable manufacturing cost per unit
- MCOPfix = Fixed manufacturing cost of production
- AC = Administration cost (fixed)
- SC = Sales cost (fixed)
- mcfix = Fixed manufacturing cost per unit
- mc = Manufacturing cost per unit
- MCOGS = Manufacturing cost of goods sold
- ac = Administration cost per unit
- sc = Sales cost per unit
- tc = Total cost per unit
- r = Result per unit
- S = Sales
- TCOGS = Total cost of goods sold
- R = Result
- IC = Change in inventory of finished goods
- TP = Total performance
- TCOP = Total cost of goods produced
- cm = Contribution margin per unit
- CM = Contribution margin
- Cfix = Fixed cost
- TCOPvar = Total variable cost of production
- TCOPfix = Total fixed cost of production