Transfer Pricing for Vertically Integrated Firms
Using Profit Centers

Objective: Profit Centers evaluate each business unit based upon its ability to maximize profit. When paired with a Vertically Integrated Strategy, Profit Centers also permit each value chain activity/business unit to fully pass along their accumulated costs (i.e.: full or complete cost recovery) to the next/subsequent value chain activity/business unit.

Symbols:

- $TP_1 =$ Transfer Price of Raw Materials
- $RMC =$ Cost to produce Raw Materials
- $PM_1 =$ Profit margin assigned over and above the actual cost of producing the raw materials
- $TP_2 =$ Transfer price of finished/manufactured goods
- $MC =$ Finished Goods Manufacturing Cost
- $PM_2 =$ Profit margin assigned over and above the actual cost of producing the finished goods
- $TP_3 =$ Distribution Transfer Price or Retail Price of the Finished Good/Service
- $DC =$ Distribution costs in selling the product to the end-user
- $PM_3 =$ Profit Margin or Retail Markup assigned by the distribution subsidiary over and above actual distribution costs

Method 1

Permits full recovery of all costs. Each value chain activity independently assigns its own profit margin (above cost) to the work that they have performed.

$TP_1 = (PM_1 + RMC)$

$TP_2 = (PM_1 + RMC) + (PM_2 + MC)$

$TP_3 = (PM_1 + RMC) + (PM_2 + MC) + (PM_3 + DC)$
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Method 2

Permits full recovery of all costs. Profit margins are assigned over and above total accumulated costs for each value chain activity.

TP1 = (PM1 + RMC)

TP2 = PM2 (TP1 + MC) + (TP1 + MC)

TP3 = (DC + TP2) + PM3(DC + TP2)

Example

RMC = $2 million   MC = $5 million   DC = $3 million
PM1 = 20%          PM2 = 40%          PM3 = 60%

Method 1

TP1 = .2($2 million) +
      $2 million
TP1 = $2,400,000

TP2 = $2,400,000 +
      .4($5,000,000) + $5,000,000
TP2 = 1.4($5,000,000) + $2,400,000
TP2 = $9,400,000

TP3 = $9,400,000 + $3,000,000 +
      .6($3,000,000)
TP3 = $9,400,000 + 1.6($3,000,000)
TP3 = $14,200,000

Method 2

TP1 = .2($2 million) +
      $2 million
TP1 = $2,400,000

TP2 = $2,400,000 + $5,000,000 +
      .4($2,400,000 + $5,000,000)
TP2 = 1.4 ($7,400,000)
TP2 = $10,360,000

TP3 = $10,360,000 + $3,000,000 +
      .6($3,000,000)
TP3 = 1.6($10,360,000 + $3,000,000)
TP3 = $21,376,000
Transfer Pricing for Vertically Integrated Firms
Using Cost Centers

Calculation of Transfer Prices for Cost Centers

Objective: All value chain business operations are evaluated relative to their ability minimize costs and maximize efficiency. Transfer Prices reflect accumulated costs at the Raw Material and Manufacturing stages of the value chain. The Transfer Price/Retail Price at Distribution reflects total accumulated cost plus a profit margin based on total cost accumulation.

Example: Assume a 15% reduction in operating costs at each stage of the value chain based on reinforcement of cost/efficiency goals.

\[
TP1 = RMC \\
TP2 = RMC + MC \\
TP3 = (RMC + MC + DC) + PM3
\]

\[
= (RMC + MC + DC) + PM3(RMC + MC + DC)
\]

\[
TP1 = \$1,700,000 \\
TP2 = \$1,700,000 + \$4,250,000 = \$5,950,000 \\
TP3 = (\$1,700,000 + \$4,250,000 + \$2,550,000) + .6(\$1,700,000 + \$4,250,000 + \$2,550,000) \\
TP3 = 1.6 (\$8,500,000) = \$13,600,000
\]
Problems with the Utilization of Profit Centers with Vertical Integration Strategies

1. No incentives to control costs.

2. Inflated Profit Margins at each stage of the value chain

3. At the Retail Distribution Stage:
   (a) inefficiently produced and high cost products
   (b) noncompetitive retail prices
   (c) pressures by distribution and production/manufacturing subsidiaries to shop outside the value chain

Advantages of Utilizing Cost Centers with Vertical Integration Strategies

1. All Value Chain operations/business units emphasize efficiency and cost control.
2. A continual emphasis on cost efficiency permits profit maximization to occur where it counts – Distribution.