

CHAPTER 4 – Consolidations 3 (IS, IA, EI, BI, LT & LN Entries)

Introduction

Affiliated companies often do business with each other (e.g., selling merchandise or other assets, providing services or making loans to each other).

These transactions are recorded on each company's books using normal accounting rules regardless of the fact that the companies are related.

One of the major goals of consolidated financial statements is to represent the net assets and operations of the related companies as if they were one company. This chapter reviews the worksheet entries that help to present the consolidated operations as if they were conducted by one company.

These worksheet entries are the same regardless of the method used by the parent to account for its investment in the subsidiary (e.g., Cost Method, Equity Method, or Sophisticated Equity Method).

Inter-company Sales of Merchandise

When affiliated companies sell merchandise to each other, each company will record the transaction as if they were buying from and selling to an unrelated enterprise. These transactions may generate: revenue, expense, receivables, payables and increases in the book value of the merchandise to reflect the increased price paid by an affiliate in the inter-company sale.

Example 1

Assume that a Parent sells merchandise costing \$1,000 to its Subsidiary for \$1,200. Assume also that the Subsidiary sells the merchandise to an unrelated party for \$1,500.

If the inter-company transaction was not eliminated in the worksheet, then the consolidated income statement would reflect both transactions as shown below:

| | | |
|--------------|--------------|--|
| Sales | \$2700 | (\$1500 sale to unrelated party + \$1200 sale to Subsidiary) |
| Less: COGS | <u>2200</u> | (\$1200 cost of Subsidiary + \$1000 cost to Parent) |
| Gross Profit | <u>\$500</u> | |

If you thought of the Parent and Subsidiary as one company, however, then the one combined company bought the merchandise for \$1,000 and sold it to an unrelated party for \$1,500 for a profit of \$500:

| | | |
|--------------|--------------|----------------------------------|
| Sales | \$1500 | (\$1500 sale to unrelated party) |
| Less: COGS | <u>1000</u> | (\$1000 cost to Parent) |
| Gross Profit | <u>\$500</u> | |

IS Entry

In order to present the two affiliated companies as if they were one company, we need to eliminate the \$1,200 inter-company sales price from the Sales Revenue and Cost of Goods Sold accounts. This is done with the IS entry (Inter-company Sale):

| | | | |
|---|---------------------------------|------------------------|------------------------|
| D | Sales Revenue (From Seller) | \$ Inter-company price | |
| C | Cost of Goods Sold (From Buyer) | | \$ Inter-company price |

Example 1 (Continued)

The IS Entry that would be used in Example 1 would be:

| | | | |
|---|---------------------------------|---------|---------|
| D | Sales Revenue (From Seller) | \$1,200 | |
| C | Cost of Goods Sold (From Buyer) | | \$1,200 |

Allocation of Profits Earned on Sales of Merchandise

As you can see, the gross profit from the two sales is the same whether or not you include the inter-company sale, but it looks like the profit was generated by a higher amount of gross revenue. For example, the gross profit percentage is 18.5% ($\$500/\2700) when the inter-company transaction is included, and it is $33\frac{1}{3}\%$ ($\$500/\1500) when the inter-company transaction is not included.

While the worksheet will eliminate the inter-company sale, the inter-company sales price is still important. The inter-company sales price (\$1,200) is used to allocate the \$500 profit from the merchandise sale between the Parent and the Subsidiary. In this case, the Parent will receive \$200 (\$1,200 - \$1,000) and the Subsidiary will receive \$300 (\$1,500 - \$1,200). This is important when you have non-controlling interests because they will share in the Subsidiary's profit, while the controlling interest gets 100% of the Parent's profit. This will show up in the Income Distribution Schedule of the Consolidation Worksheet.

Inter-company Debt Created by Sale

When the inter-company transactions (such as the sale of inventory) involve extending credit, then a receivable and a payable will be created on the books of the affiliated companies. If you present the two companies as if they are one company, then this inter-company debt must be eliminated. You cannot owe money to yourself. Neither the receivable nor the payable should appear in the consolidated balance sheet.

IA Entry

Any inter-company debt that arises from the inter-company sale of merchandise is eliminated through the use of the IA Entry (Inter-company Account):

| | | | |
|---|-----------------------------------|------------------------------------|------------------------------------|
| D | Accounts Payable (From Buyer) | \$ Amount of Inter-company debt | |
| C | Accounts Receivable (From Seller) | | \$ Amount of Inter-company debt |

The amount used in the IA Entry is the amount that is outstanding at the end of the year (rather than the original balance of the inter-company debt).

Example 2

Assume that the inter-company sale of merchandise in Example 1 was made on credit, and an accounts receivable and accounts payable of \$1,200 was created. Assume that \$800 is paid by the Subsidiary to the Parent to discharge this receivable/payable in part. At the end of the year, assume that \$400 of that receivable/payable remains unpaid.

The IA Entry would be:

| | | | |
|---|-----------------------------------|-------|-------|
| D | Accounts Payable (From Buyer) | \$400 | |
| C | Accounts Receivable (From Seller) | | \$400 |

Timing of Recognition of Profit by Affiliated Companies

The inter-company sale of merchandise and the following sale of that merchandise to an unrelated buyer are unlikely to occur at the same time. If the inter-company sale of the merchandise occurs in a different year from the year in which the merchandise is sold to the unrelated party, then you have a problem. The inter-company sale generated a profit that is recorded on the inter-company seller's books. If you think of the affiliated companies as one company, however, there has not been a sale yet. You just moved the merchandise from the seller's location to the buyer's location. There isn't a sale until you have the sale to the unrelated buyer. So, you have the inter-company seller reporting a gain that hasn't occurred yet.

GAAP states that no profit must be recognized on an inter-company sale of merchandise until the sale is made to an unrelated party. Once the sale to the outsider is made, then the inter-company seller and buyer will be allowed to report their respective share of the profit from that sale.

Mark-Up of Merchandise Sold Between Related Companies

We have seen that there is a problem with the profit generated by an inter-company sale of merchandise that is not followed by a sale of that merchandise to an unrelated party in the same year as the inter-company sale. There is also a problem with the book value of the merchandise sold to affiliated companies that is not accompanied by a sale to an unrelated buyer.

Assuming that the inter-company seller marked up the merchandise sold to the affiliated company:

- The profit of the inter-company seller is equal to the mark-up on the merchandise sold.
- This merchandise is listed on the inter-company buyer's balance sheet at this marked-up price.

If you think of the inter-company buyer and seller as if they were one company, however, there is no profit until the sale to the unrelated buyer, and the merchandise's cost is equal to the original cost paid by the inter-company seller to buy the merchandise in the first place.

In order to eliminate these problems it is important that:

- The profit of the inter-company seller related to goods not sold to an unrelated buyer must be deferred until the following year (when the sale to the unrelated buyer occurs); and
- The unsold inventory must be shown in the consolidated balance sheet at its original cost (not the marked-up inter-company sales price).

EI Worksheet Entry

The inter-company profit and mark-up is eliminated through the use of the EI Entry (Ending Inventory). Only the profit and mark-up of the merchandise that remains in the inter-company's ending inventory is eliminated. The EI Entry would consist of the following:

| | | | |
|---|----------------------------------|-------------------|-------------------|
| D | Cost of Goods Sold (From Seller) | \$ profit/mark-up | |
| C | Inventory (From Buyer) | | \$ profit/mark-up |

You should think of the increase in the Cost of Goods Sold of the Seller as decreasing the profit of the Seller (by increasing the Seller's expenses). The credit to Inventory eliminates the mark-up from the book value of the unsold merchandise.

Example 3

Assume that the merchandise sold in Example 1 remains unsold at the end of the year. The EI Entry would be:

| | | | |
|---|----------------------------------|--------|--------|
| D | Cost of Goods Sold (From Seller) | \$ 200 | |
| C | Inventory (From Buyer) | | \$ 200 |

Example 4

Assume that Parent and Subsidiary have the following income statements in 2001:

| | <u>Parent</u> | <u>Subsidiary</u> |
|-------------------|------------------|-------------------|
| Sales | \$700,000 | \$500,000 |
| Less: COGS | <u>(510,000)</u> | <u>(350,000)</u> |
| Gross Profit | \$190,000 | \$150,000 |
| Other Expenses | (90,000) | (75,000) |
| Subsidiary Income | <u>60,000</u> | |
| | <u>\$160,000</u> | <u>\$75,000</u> |

Assume that:

- the Parent uses the equity method to account for its investment;
- the Parent and the Subsidiary use perpetual inventory systems;
- the Parent sold inventory that cost \$80,000 to the Subsidiary for \$100,000 on credit;
- the Subsidiary only paid \$75,000 of the amount owed to the Parent; and
- the Subsidiary sells the inventory to an unrelated party for \$150,000.

The journal entries for these transactions on the Parent's (seller's) books are as follows:

| | | | |
|---|---------------------|-----------|-----------|
| D | Accounts Receivable | \$100,000 | |
| C | Sales Revenue | | \$100,000 |
| D | Cost of Goods Sold | \$80,000 | |
| C | Inventory | | \$80,000 |
| D | Cash | \$75,000 | |
| C | Accounts Receivable | | \$75,000 |

The journal entries for these transactions on the Subsidiary's (buyer's) books are as follows:

| | | |
|-----------------------|-----------|-----------|
| D Inventory | \$100,000 | |
| C Accounts Payable | | \$100,000 |
| D Accounts Receivable | \$150,000 | |
| C Sales Revenue | | \$150,000 |
| D Cost of Goods Sold | \$100,000 | |
| C Inventory | | \$100,000 |
| D Accounts Payable | \$75,000 | |
| C Cash | | \$75,000 |

The foregoing journal entries result in the following partial trial balance of the Parent and Subsidiary (that relates to this inter-company sale):

| | <u>Worksheet</u> | |
|---------------------|------------------|-------------------|
| | <u>Parent</u> | <u>Subsidiary</u> |
| Accounts Receivable | \$25,000 | |
| Accounts Payable | | -25,000 |
| Revenue | -100,000 | -150,000 |
| COGS | 80,000 | 100,000 |

If this sale of merchandise to an unrelated buyer had been made by one company:

- there would be no receivable/ payable of \$25,000;
- the revenue would be \$150,000; and
- the cost of goods sold would be \$80,000
- the partial trial balance (that relates to this sale) would look like the following;

| <u>Trial Balance</u> | |
|----------------------|----------|
| Revenue | -150,000 |
| COGS | 80,000 |

The IS and IA Entries would transform the consolidated trial balance into the one-company trial balance:

| | <u>Parent</u> | <u>Subsidiary</u> | | | <u>Consolidation</u> | |
|---------------------|---------------|-------------------|----|-----------|----------------------|---------|
| Accounts Receivable | \$25,000 | | | -\$25,000 | IA | 0 |
| Accounts Payable | | -25,000 | IA | 25,000 | | 0 |
| Revenue | -100,000 | -150,000 | IS | 100,000 | | 150,000 |
| COGS | 80,000 | 100,000 | | 100,000 | IS | 80,000 |

Example 5

Continue with the facts of Example 4, but assume that the Subsidiary did not sell all of the goods that it purchased from the Parent. Assume that the Subsidiary only sold \$60,000 of the goods (60% of the goods that it purchased from the Parent), and that \$40,000 of these goods (40% of the goods purchased from the Parent) are still in the inventory of the Subsidiary.

It would be helpful for you to realize that the Parent took the inventory that cost \$80,000 and sold it for \$100,000 for a profit of \$20,000. In other words, of the price paid by the Subsidiary for the inter-company merchandise, 20% represents the inter-company seller's profit. Knowing that 20% of the Subsidiary's cost represent the profit of the Parent will be helpful later.

The journal entries for these transactions on the Parent's books are as follows:

| | | | |
|---|-----------------------|-----------|-----------|
| D | Accounts Receivable | \$100,000 | |
| | C Sales Revenue | | \$100,000 |
| D | Cost of Goods Sold | \$80,000 | |
| | C Inventory | | \$80,000 |
| D | Cash | \$75,000 | |
| | C Accounts Receivable | | \$75,000 |

The journal entries for these transactions on the Subsidiary's books are as follows:

| | | | |
|---|---------------------|-----------|-----------|
| D | Inventory | \$100,000 | |
| | C Accounts Payable | | \$100,000 |
| D | Accounts Receivable | \$90,000 | |
| | C Sales Revenue | | \$90,000 |
| D | Cost of Goods Sold | \$60,000 | |
| | C Inventory | | \$60,000 |
| D | Accounts Payable | \$75,000 | |
| | C Cash | | \$75,000 |

The foregoing journal entries result in the following partial trial balance of the Parent and Subsidiary (that relates to this sale):

| | <u>Worksheet</u> | |
|---------------------|------------------|-------------------|
| | <u>Parent</u> | <u>Subsidiary</u> |
| Accounts Receivable | \$25,000 | |
| Inventory | | \$40,000 |
| Accounts Payable | | -25,000 |
| Revenue | -100,000 | -90,000 |
| COGS | 80,000 | 60,000 |

If this sale had been made by one company:

- there would be no receivable/ payable of \$25,000;
- the revenue would be \$90,000; and
- the cost of goods sold would be \$48,000 (60% of the original cost of the merchandise – \$80,000)
- the unsold inventory would have a balance of \$32,000 (40% of the original cost of \$80,000)
- the partial trial balance (that relates to this sale) would look like the following;

| <u>Trial Balance</u> | |
|----------------------|----------|
| Inventory | \$32,000 |
| Revenue | -90,000 |
| COGS | 48,000 |

The IS, IA and EI Entries would transform the consolidated trial balance into the one-company trial balance:

| | <u>Parent</u> | <u>Subsidiary</u> | | | | <u>Consolidation</u> | |
|---------------------|---------------|-------------------|----|---------|-----------|----------------------|--------|
| Accounts Receivable | \$25,000 | | | | -\$25,000 | IA | 0 |
| Inventory | | \$40,000 | | | -8,000 | EI | 32,000 |
| Accounts Payable | | -25,000 | IA | 25,000 | | | 0 |
| Revenue | -100,000 | -90,000 | IS | 100,000 | | | 90,000 |
| COGS | 80,000 | 60,000 | EI | 8,000 | -100,000 | IS | 48,000 |

Income Distribution Schedule of Inter-company Seller

As noted above, the EI Entry eliminates the inter-company seller's profit on the unsold merchandise for the current year. This profit is not completely eliminated. Instead, it is deferred until the merchandise is sold to an unrelated buyer. The eliminated profit is allocated to the inter-company seller in its Income Distribution Schedule as follows:

| Income Distribution Schedule of Inter-company Seller | | | |
|--|--------------|---------------------------------|--------------|
| Deferred Profit | \$xxx | Internally generated net income | \$xxx |
| | | Adjusted income | <u>\$xxx</u> |

Example 6

Assume that the Parent in Example 5 owns 80% of the Subsidiary. Also assume that the Parent had net income (apart from its interest in the Subsidiary) equal to \$200,000, and that the Subsidiary has \$100,000 of net income.

The Income Distribution Schedule of the Worksheet would appear as follows:

| Subsidiary (Buyer) Income Distribution | | | |
|--|----------------|---------------------------------------|------------------|
| | | Internally generated net income | \$100,000 |
| | | NCI share | 20% |
| | | NCI | <u>\$20,000</u> |
| Parent (Seller) Income Distribution | | | |
| Deferred Profit | \$8,000 | Internally generated net income | \$200,000 |
| | | 80% of Subsidiary income of \$100,000 | 80,000 |
| | | Controlling Interest | <u>\$272,000</u> |

Years Following the Inter-company Sale

As noted above, the inter-company seller's profit on unsold merchandise is only deferred until the year in which the merchandise is sold to an unrelated buyer. Until the sale to the unrelated buyer, the inter-company seller's profit on the unsold merchandise must continue to be deferred.

Two things have to happen as part of this deferral:

- the profit/mark-up must be eliminated from the inter-company seller's Retained Earnings; and
- the profit/mark-up must be eliminated from the cost of the unsold inventory.

In the first year, the profit is eliminated. In subsequent years, that profit ended up in the Seller's Retained Earnings account, and it must be eliminated from that account. We continue to eliminate it from Retained Earnings until the profit can be taken.

BI Entry

Until the sale of the unsold inventory to an unrelated buyer, the elimination of the profit/mark-up from the seller's Retained Earnings account and the buyer's Inventory account is accomplished through the use of the BI Entry (Beginning Inventory):

| | | | |
|---|-------------------|-------------------|-------------------|
| D | Retained Earnings | \$ profit/mark-up | |
| | C Inventory | | \$ profit/mark-up |

Example 7

Assume that the unsold inventory in Example 5 remains unsold in the year following the year of the inter-company sale. Also assume that no additional inventory is purchased from the Parent in the following year.

In the following year, the worksheet would have the following BI Entry:

| | | | |
|---|-------------------|----------|----------|
| D | Retained Earnings | \$ 8,000 | |
| | C Inventory | | \$ 8,000 |

Sale of Merchandise in a Later Year

When the sale to the unrelated buyer finally occurs, then the deferred profit will be recognized. Unfortunately, we still have to deal with the fact that profit was already recognized by the inter-company seller in a prior year, and that profit has increased the inter-company's Retained Earnings account. We must eliminate the profit from the beginning balance of the seller's Retained Earnings account. This is still done with the BI Entry.

Now that the Inventory has been sold, there is no need to write down the Inventory because it no longer exists on the buyer's trial balance. Instead, we use the BI Entry to now recognize the inter-company seller's profit that we had

previously deferred. This is done by decreasing the Cost of Goods Sold account. A decrease in this expense has the effect of increasing the consolidated profits:

| | | | |
|---|-------------------|-------------------|-------------------|
| D | Retained Earnings | \$ profit/mark-up | |
| C | COGS | | \$ profit/mark-up |

It is important for you to understand the decrease of the Retained Earnings account only relates to the beginning balance of the inter-company seller's Retained Earnings account. The decrease in COGS will increase the inter-company seller's profits for the current year and this will increase the seller's Retained Earnings for the current year. This has the effect of restoring the deferred profit to the inter-company seller's Retained Earnings account at the end of the current year.

As noted above, the BI Entry gives the inter-company seller the profit that had been previously deferred in the EI Entry. The restored profit is allocated to the inter-company seller in its Income Distribution Schedule as follows:

| Income Distribution Schedule of Inter-company Seller | | |
|--|---------------------------------|------------|
| | Internally generated net income | \$xxx |
| | Restored Profit | xxx |
| | Adjusted income | \$xxx |

Example 8

Assume that the unsold inventory in Example 5 is sold in the year following the year of the inter-company sale. Also assume that no additional inventory is purchased from the Parent in the following year. Assume that the Subsidiary had net income of \$100,000, and the Parent had net income (apart from its interest in the Subsidiary) of \$200,000:

In the following year, the worksheet would have the following BI Entry:

| | | | |
|---|-------------------|----------|----------|
| D | Retained Earnings | \$ 8,000 | |
| C | COGS | | \$ 8,000 |

The Income Distribution Schedule of the Worksheet would appear as follows:

| Subsidiary Income Distribution | | |
|--------------------------------|---------------------------------|-----------------|
| | Internally generated net income | \$100,000 |
| | NCI share | 20% |
| | NCI | <u>\$20,000</u> |

Parent Income Distribution

| | | |
|--|--|------------------|
| | Internally generated net income | \$200,000 |
| | Restored Profit | 8,000 |
| | 80% of Subsidiary adjusted income of \$100,000 | 80,000 |
| | Controlling Interest | <u>\$288,000</u> |

Example 9

Continue with the facts of Example 5. Now, assume it is the year following the inter-company sale. Assume that the Parent and Subsidiary have the following income statements in this year:

| | <u>Parent</u> | <u>Subsidiary</u> |
|-------------------|------------------|-------------------|
| Sales | \$800,000 | \$600,000 |
| Less: COGS | <u>(610,000)</u> | <u>(440,000)</u> |
| Gross Profit | \$190,000 | \$160,000 |
| Other Expenses | (120,000) | (100,000) |
| Subsidiary Income | <u>48,000</u> | <u>60,000</u> |
| | <u>\$160,000</u> | <u>\$60,000</u> |

Assume the following additional facts:

- The Subsidiary's (buyer's) beginning inventory includes \$40,000 of the goods purchased from the Parent (seller) in the preceding year. The gross profit rate was 20% $[(100,000 - 80,000) / \$100,000]$. The Subsidiary sold this inventory in the current year
- Parent sold an additional \$120,000 of merchandise to Subsidiary in the current year.
- Parent continued to record a 20% gross profit on the sales to the Subsidiary in the current year.
- At the end of the current year, the Subsidiary still owed \$60,000 to Parent for the merchandise purchases.
- The Subsidiary failed to sell \$30,000 of the merchandise that it purchased from the Parent in the current year. This \$30,000 is in the Subsidiary's ending inventory.

The IS Entry for the new inter-company sales transactions for the current year is as follows:

| | | | |
|---|----------------------|-----------|-----------|
| D | Sales Revenue | \$120,000 | |
| | C Cost of Goods Sold | | \$120,000 |

The IA Entry for the current year is as follows:

| | | | |
|---|------------------|---------------------|----------|
| D | Accounts Payable | \$60,000 | |
| | C | Accounts Receivable | \$60,000 |

The EI Entry for the \$30,000 of inventory that has not been sold in the current year is as follows:

| | | | |
|---|--------------------|-----------|---------|
| D | Cost of Goods Sold | \$6,000 | |
| | C | Inventory | \$6,000 |

The amount used in the EI Entry is equal to the profit that is deferred on the unsold merchandise (20% profit margin x \$30,000 unsold merchandise).

The BI Entry for the inventory that wasn't sold in the previous year, but was sold in the current year is as follows:

| | | | |
|---|---------------------------|--------------------|---------|
| D | Retained Earnings, Parent | \$8,000 | |
| | C | Cost of Goods Sold | \$8,000 |

The Parent's beginning Retained Earnings account is reduced by \$8,000 because it loses the \$8,000 profit on the inter-company sale that was booked in preceding year. This profit should not have been taken in the prior year. It should have been deferred.

The credit to Cost of Goods Sold has the effect of increasing Parent's profits in the second year in order to restore the deferred profit for the inter-company seller (the Parent).

The Income Distribution Schedule of the Worksheet would appear as follows:

| Subsidiary Income Distribution | | | |
|--|---------|--|------------------|
| | | Internally generated net income | \$60,000 |
| | | NCI share | 20% |
| | | NCI | <u>\$12,000</u> |
| Parent Income Distribution | | | |
| Deferred Profit (from current year's sale) | \$6,000 | Internally generated net income | \$70,000 |
| | | Restored Profit (from prior year's sale) | \$8,000 |
| | | 80% of Subsidiary income of \$60,000 | 48,000 |
| | | Controlling Interest | <u>\$120,000</u> |

When Subsidiary is the Inter-company Seller

When the Subsidiary is the inter-company seller, then the seller's Retained Earnings will be reduced in the BI Entry. Unfortunately, there is a problem doing this when the Subsidiary is the inter-company seller. The problem comes from

the fact that we already eliminated the Parent's share of the Subsidiary's Retained Earnings in the EL Entry before we get to the BI Entry. The Parent's share of the Subsidiary's Retained Earnings is no longer in the Retained Earnings account for us to reduce.

While the Parent's share of the Subsidiary's Retained Earnings has been eliminated, the Parent's share of that deferred profit still exists in the Parent's Retained Earnings. (Remember that the Parent uses the Equity Method.) So, the BI Entry removes the Parent's share of the Subsidiary's deferred profit from the Parent's Retained Earnings account, and the remaining deferred profit is removed from the remaining balance of the Subsidiary's Retained Earnings account that belongs to the non-controlling interest.

Example 10

Assume that the inter-company seller in Example 9 is the Subsidiary rather than the Parent. The BI Entry would be:

| | | | |
|---|-------------------------------------|---------|---------|
| D | Retained Earnings, Parent (80%) | \$6,400 | |
| | Retained Earnings, Subsidiary (20%) | 1,600 | |
| C | Cost of Goods Sold | | \$8,000 |

Losses on Inter-company Sales

If an inter-company sale results in a loss being recognized, you have to ask why the loss occurs. If the loss occurs because the inventory has dropped in value, then the inter-company seller can recognize the loss even if the buyer doesn't sell the goods to an unrelated buyer. This is allowed because the seller could have taken a loss under "the lower of cost or market" method used to value its inventory.

If the loss on the inter-company sale is artificial, then it is postponed until the inventory is sold to an unrelated buyer.

Inter-company Sale of a Non-depreciable Asset

When a non-depreciable asset (typically land) is sold from one affiliated company to another, the gain is deferred until the asset is sold to an unrelated buyer. If the asset is never sold, then the deferral is permanent. Two things have to happen as part of the deferral of the gain on the non-depreciable asset:

- The inter-company gain has to be eliminated for the current year; and
- The book value of the non-depreciable asset has to be reduced to the original cost.

The LA Entry

The deferral of the gain from the inter-company sale of a non-depreciable asset along with the reduction of its book value to its original cost is accomplished with the LA (Land Adjustment) Entry:

| | | | |
|---|---------------------------------------|-------|-------|
| D | Gain on Sale of Non-depreciable Asset | \$xxx | |
| C | Non-depreciable Asset | | \$xxx |

As was true with the inter-company sale of merchandise, the inter-company seller's profit will be deferred until the non-depreciable asset is sold to an unrelated buyer.

Provided that the non-depreciable asset is not sold to an unrelated buyer, for each year that follows the inter-company sale: (i) the book value of the non-depreciable asset must be reduced to its original cost, and (ii) the deferred gain must be removed from the inter-company seller's Retained Earnings in the LA Entry:

| | | | |
|---|----------------------------|-------|-------|
| D | Retained Earnings (seller) | \$xxx | |
| C | Non-depreciable Asset | | \$xxx |

If the non-depreciable asset is sold to an unrelated buyer, then the inter-company seller will be given the deferred gain in that year's LA Entry:

| | | | |
|---|---------------------------------------|-------|-------|
| D | Retained Earnings (seller) | \$xxx | |
| C | Gain on Sale of Non-depreciable Asset | | \$xxx |

Example 11

Assume that Parent sold land that originally cost \$20,000 to its Subsidiary for \$30,000. In the first year, the LA Entry would be as follows:

| | | | |
|---|----------------------|----------|----------|
| D | Gain on Sale of Land | \$10,000 | |
| C | Land | | \$10,000 |

Assume that in the second year, the Subsidiary continued to own the land. The LA Entry would be as follows:

| | | | |
|---|---------------------------|----------|----------|
| D | Retained Earnings, Parent | \$10,000 | |
| C | Land | | \$10,000 |

In the third year, assume that the Subsidiary sold the land for \$45,000. The Subsidiary will recognize \$15,000 of gain on its books (\$45,000 - \$30,000 inter-company sales price). On the consolidated worksheet, the Parent will receive its deferred gain of \$10,000.

The LA Entry will be as follows:

| | | | |
|---|-----------------------------------|----------|----------|
| D | Retained Earnings, Parent | \$10,000 | |
| C | Gain on Intercompany Sale of Land | | \$10,000 |

Inter-company Sale of a Non-depreciable Asset

When depreciable assets are sold, then the gain will not be deferred until the asset is sold. Instead, the gain will be “amortized” over the asset’s useful life.

In order to understand the concept of amortizing the inter-company gain, consider what is going on. Think of this transaction in stages:

- First, we want to defer the gain on the sale of the asset until it is sold to an unrelated buyer.
- Second, the inter-company buyer now owns that depreciable asset, and the inter-company buyer is depreciating that asset. To the extent that the inter-company buyer is depreciating the original cost of the asset, there isn’t a problem. Unfortunately, if the depreciable asset was marked-up, then the marked-up price will be depreciated and this will produce more depreciation expense than would have been taken if the depreciable asset had not be sold.
- The excess depreciation expense must be eliminated.
- The elimination of this excess depreciation expense produces extra income on the consolidation level that wasn’t taken by either the Parent or the Subsidiary.
- Someone has to get this extra income, and we give it to the inter-company seller.
- You have to remember that the excess depreciation comes from the mark-up/profit from the inter-company sale.
- Assuming no salvage value, ultimately the amount of excess depreciation will be equal to the amount of the deferred profit/mark-up.
- Thus, the inter-company seller will receive the amount of its deferred profit over the remaining useful life of the depreciable asset.
- Another way of saying that the inter-company seller will receive income equal to its deferred gain over the depreciable asset’s remaining useful life is to say that the inter-company seller’s gain is being “amortized”.

The FA Entry

The deferral of the gain from the inter-company sale of a depreciable asset along with the elimination of the mark-up/profit is accomplished with the FA (Fixed Assets) Entries. In the year of the inter-company sale, the inter-company gain and the reduction of the book value of the depreciable asset to its book value is accomplished in the FA 1 Entry:

| | | | |
|---|---------------------------|-----------------|-----------------|
| D | Gain on Sale of Machinery | \$ mark-up/gain | |
| C | Machinery | | \$ mark-up/gain |

The extra depreciation expense that is generated on the inter-company buyer's income statement by depreciating the mark-up/profit is eliminated in the FA 2 Entry:

| | | | |
|---|--------------------------|-----------------|-----------------|
| D | Accumulated Depreciation | \$ depreciation | |
| C | Depreciation Expense | | \$ depreciation |

The Income Distribution Schedule Related to the FA Entries

The FA 1 Entry eliminates the inter-company gain of the inter-company seller. The FA 2 Entry reduction in the depreciation expense [a credit to a debit account (expense)] creates income that is allocated to the inter-company seller. This is the amortization of the inter-company gain discussed in the book.

This dual effect can be seen in the Income Distribution Schedule of the inter-company seller:

| Inter-Company Seller Income Distribution | | | |
|--|-------|---------------------------------|--------------|
| Deferred Gain (FA 1) | \$xxx | Internally generated net income | \$xxx |
| | | Amortized Gain (FA 2) | xxx |
| | | Adjusted Income | <u>\$xxx</u> |

Example 12

Assume the following facts:

- the Parent sells a machine to a Subsidiary for \$30,000 on January 1, 20x1;
- originally, the machine cost \$32,000 with accumulated depreciation of \$12,000 (book value of \$20,000);
- the buyer (Subsidiary) will depreciate the equipment over 5 years using the straight-line method with no salvage value;
- this results in depreciation expense of \$6,000 a year (\$30,000/5);

- the Parent owns 80% of the Subsidiary;
- the Parent uses the equity method to record its investment in the Subsidiary; and
- there are no beginning or ending inventories.

There is a gain of \$10,000 (\$30,000 - \$20,000) from the inter-company sale of the machine. The Parent and the Subsidiary have the following net incomes:

| | Parent | Subsidiary |
|----------------------|------------------|-----------------|
| Sales | \$200,000 | \$100,000 |
| Less: COGS | <u>(150,000)</u> | <u>(59,000)</u> |
| Gross Profit | \$50,000 | \$41,000 |
| Other Expenses | (30,000) | (16,000) |
| Gain on Sale of Land | 10,000 | |
| Subsidiary Income | <u>20,000</u> | |
| | <u>\$50,000</u> | <u>\$25,000</u> |

The FA 1 Entry for 20x1 would be as follows:

| | | |
|-----------------------------|----------|----------|
| D Gain on Sale of Machinery | \$10,000 | |
| C Machinery | | \$10,000 |

The FA 2 Entry for 20x1 would be as follows:

| | | |
|----------------------------|---------|---------|
| D Accumulated Depreciation | \$2,000 | |
| C Depreciation Expense | | \$2,000 |

The reduction in the depreciation expense raises the consolidated income. The \$2,000 increase in income is allocated to the seller of the machinery, the Parent, as the amortization of the gain from the inter-company sale. This can be seen in the Income Distribution of the Worksheet:

| Subsidiary Income Distribution | | | |
|--------------------------------|-----------------|--------------------------------------|-----------------|
| | | Internally generated net income | \$25,000 |
| | | NCI share | <u>20%</u> |
| | | NCI | <u>\$5,000</u> |
| Parent Income Distribution | | | |
| Deferred Gain (FA1) | \$10,000 | Internally generated net income | \$30,000 |
| | | 80% of Subsidiary income of \$24,000 | 20,000 |
| | | Amortized Gain (FA2) | 2,000 |
| | | Controlling Interest | <u>\$42,000</u> |

FA Entries in Years Following Inter-company Sale

In the years following the inter-company sale: (i) you still want to eliminate the sellers' deferred profit, and (ii) you still want to reduce the book value of the depreciable asset by the amount that it has been marked-up in the inter-company sale. Unfortunately, these amounts have now changed. Moreover, the deferred profit is now in the inter-company seller's Retained Earnings account.

The deferred profit is no longer the original gain. We allowed the inter-company seller to take part of the gain. The part of the gain that is deferred, which is now in the Retained Earnings account, is equal to: (i) the original profit, reduced by (ii) the amount of the gain that was allocated to the seller (the amortized gain) in the prior years. The amortized gain is equal to the depreciation expense that has been eliminated in prior years.

The mark-up of the depreciable asset has also changed. In the first year, it was the original profit/mark-up. In later year, the depreciable asset is no longer on the buyer's books at the marked-up price. This mark-up has been partially depreciated. In later years, the mark-up appears on the buyer's balance sheet in two accounts: (i) the original cost (Depreciable Asset account), reduced by the depreciation taken in prior years (Accumulated Depreciation account). Both the original cost and the disallowed depreciation must be eliminated.

The FA1 Entry in later years would be as follows:

| | | | |
|---|---------------------|-----------------------------------|------------------|
| D | Retained Earnings | \$ Undepreciated Portion of Asset | |
| | Accum. Depreciation | Prior years' Depreciation | |
| C | Depreciable Asset | | \$ Original Cost |

The FA2 Entry doesn't change. It still eliminates the current year's excess depreciation from the mark-up.

Example 12 (Continued)

Assume that the Parent and Subsidiary in Example 12 had the following net incomes in 20x2:

| | Parent | Subsidiary |
|-------------------|------------------|-----------------|
| Sales | \$200,000 | \$100,000 |
| Less: COGS | <u>(150,000)</u> | <u>(59,000)</u> |
| Gross Profit | \$50,000 | \$41,000 |
| Other Expenses | (30,000) | (16,000) |
| Subsidiary Income | <u>20,000</u> | <u>25,000</u> |
| | <u>\$40,000</u> | <u>\$25,000</u> |

The FA 1 Entry in 20x2 would be as follows:

| | | | |
|---|------------------------------------|---------|----------|
| D | Retained Earnings, Parent 1/1/20x2 | \$8,000 | |
| | Accumulated Depreciation | 2,000 | |
| C | Machinery | | \$10,000 |

The FA 2 Entry form 20x2 would be as follows:

| | | | |
|---|--------------------------|---------|---------|
| D | Accumulated Depreciation | \$2,000 | |
| C | Depreciation Expense | | \$2,000 |

The Income Distribution Schedule on the Consolidation Worksheet for 20x2 would appear as follows:

| Subsidiary Income Distribution | | |
|--------------------------------|--------------------------------------|-----------------|
| | Internally generated net income | \$24,000 |
| | NCI share | 20% |
| | NCI | <u>\$4,800</u> |
| Parent Income Distribution | | |
| | Internally generated net income | \$50,000 |
| | Amortized Gain (FA 2) | 2,000 |
| | 80% of Subsidiary income of \$24,000 | 19,200 |
| | Controlling Interest | <u>\$71,200</u> |

Inter-company Long-Term Construction Contracts

If one member of a consolidation group constructs an asset for an affiliated company, the construction company will record its costs in a Construction in Progress account using an entry similar to the following:

| | | | |
|---|--------------------------|-------|-------|
| D | Construction in Progress | \$xxx | |
| C | Payables | | \$xxx |

As the construction company bills its affiliated client for the construction costs, it would reduce the Construction in Progress account through the use of a contra account and replace that asset with a Contract Receivable from the affiliated company:

| | | | |
|---|--------------------------------------|-------|--------|
| D | Contracts Receivable | \$xxx | |
| C | Billings on Construction in Progress | | \$xxxx |

The construction company's partial balance sheet would look like the following:

| Construction Company's Balance Sheet | | | |
|--------------------------------------|-------------|----------------------------|-------------------|
| Contract Receivable | | \$xxx | Payables |
| Construction in Progress | \$xxx | | \$xxx |
| Less: Billings | <u>-xxx</u> | | |
| Total Assets | | <u>xxx</u> <u>\$xxx</u> | Total Liabilities |
| | | | <u>\$xxx</u> |

The affiliated client for whom the building is being built would show the receipt of the construction bill on its books:

| | | |
|-----------------------------|-------|-------|
| D Assets Under Construction | \$xxx | |
| C Contracts Payable | | \$xxx |

The client's partial balance sheet would look like the following:

| Client's Balance Sheet | | | |
|--------------------------|--------------|-------------------|--------------|
| Asset Under Construction | <u>\$xxx</u> | Contract Payable | <u>\$xxx</u> |
| Total Assets | <u>\$xxx</u> | Total Liabilities | \$xxx |

Remember that the purpose of the consolidation is to present the operations of these two companies as if they were one company. If one company constructed a building for itself, there would be no inter-company debt. So, we first get rid of the inter-company debt that appears in the Contract Receivable and Contract Payable accounts. If one company was constructing a building for itself, all of the construction costs would appear as an asset in the Asset Under Construction account. We therefore want to eliminate the Construction in Progress and Billings accounts. We accomplish these things through the use of the LT Entries (Long-Term). There is no need to change the Payables accounts. These are debts owed to unrelated sub-contractors. These amounts would be owed even if one company constructed a building for itself.

On the consolidation worksheet you want to eliminate the payable and receivable on the Long Term contracts. This is done in the LT1 Entry:

| | | |
|------------------------|-------|-------|
| D Contracts Payable | \$xxx | |
| C Contracts Receivable | | \$xxx |

You also want to eliminate the Construction in Progress account and the Billings account. This is done in the LT2 Entry. In order to understand this entry better, we will do it in two stages.

First, eliminate the billed construction costs:

| | | | |
|---|----------|--------------------------|-----------------|
| D | Billings | \$ billed costs | |
| | C | Construction in Progress | \$ billed costs |

This entry would eliminate the Billings account, and partially eliminate the Construction in Progress account. The client's Asset Under Construction account remains, and that account contains the billed portion of the construction costs.

Second, we have to deal with the unbilled construction costs. The Construction in Progress account still contains the unbilled portion of construction costs. We want to move these unbilled construction costs to the client's Asset Under Construction account.

| | | | |
|---|---------------------------|--------------------------|-------------------|
| D | Assets Under Construction | \$ unbilled costs | |
| | C | Construction in Progress | \$ unbilled costs |

After the unbilled costs are added to the billed construction costs that are already in the Asset Under Construction account, the Asset Under Construction account will contain all of the construction costs.

If you put these two parts together, you get the LT2 Entry:

| | | | |
|---|--------------------------------------|--------------------------|----------------|
| D | Billings on Construction in Progress | \$ billed costs | |
| | Assets Under Construction | unbilled costs | |
| | C | Construction in Progress | \$ total costs |

Example 13

Assume that the Parent is constructing a building for the Subsidiary. The Subsidiary will pay \$500,000 and it will cost the Parent \$400,000 to construct the building. Thus, a profit of \$100,000 is expected on the contract, and the work is half done during the first year, 2001. The Parent has billed the Subsidiary for \$150,000 of work.

The Parent records the cost of the construction during the first year on its books:

| | | | |
|---|--------------------------|-----------|-----------|
| D | Construction in Progress | \$200,000 | |
| | C | Payables | \$200,000 |

The Parent also records the billings on its books:

| | | | |
|---|---------------------|--------------------------------------|-----------|
| D | Contract Receivable | \$150,000 | |
| | C | Billings on Construction in Progress | \$150,000 |

The Billings account is a contra account that reduces the Construction in Progress account.

The client, the Subsidiary, also records the billings on its books:

| | | | |
|---|---------------------------|-----------|-----------|
| D | Assets Under Construction | \$150,000 | |
| C | Contract Payable | | \$150,000 |

On the consolidation worksheet you want to eliminate the inter-company payable/receivable on the Long Term contracts. This is done in the LT1 Entry:

| | | | |
|---|---------------------|-----------|-----------|
| D | Contract Payable | \$150,000 | |
| C | Contract Receivable | | \$150,000 |

You also want to eliminate the Construction in Progress account and the Billings account. This is done in the LT2 Entry:

| | | | |
|---|--------------------------------------|-----------|-----------|
| D | Billings on Construction in Progress | \$150,000 | |
| | Assets Under Construction | 50,000 | |
| C | Construction in Progress | | \$200,000 |

After the LT Entries, you have what you would have had if one company had constructed a building for itself. An Asset Under Construction account and a Payables account, both of which have a balance of \$200,000.

| | | | | | | | |
|--------------------------|-----------|-----------|-----|-----------|-----------|-----|-----------|
| Contract Receivable | \$150,000 | | | | | | |
| Asset Under Construction | | \$150,000 | LT2 | \$50,000 | | | \$200,000 |
| Construction in Progress | 200,000 | | | | -200,000 | LT2 | 0 |
| Less: Billings | -150,000 | | LT2 | 150,000 | | | 0 |
| Payables | -200,000 | | | | | | \$200,000 |
| Contract Payable | | -150,000 | LT1 | 150,000 | | | 0 |
| | 0 | 0 | | \$350,000 | \$350,000 | | 0 |

Gain of the Affiliated Construction Company

A construction company can recognize its gain on a construction contract using either: (i) the Completed Contract Method, or (ii) the Percentage of Completion Method.

With the Completed Contract Method, the construction company does not recognize any gain from the construction contract until the contract is completed. If the affiliated construction company uses the Completed Contract Method, there will be no gain until after the contract is completed. At that point, you are dealing with the inter-company sale of a depreciable asset. The inter-company gain will be amortized over the useful life of the depreciable asset as described in the discussion of the inter-company sale of depreciable assets that appears above.

With the Percentage of Completion Method, the construction company will recognize the gain from the construction contract during the construction period. This will be done by adding the gain to the Construction in Progress account:

| | | | |
|---|-------------------------------------|-------|-------|
| D | Construction In Progress | \$xxx | |
| C | Earned Income on Long-Term Contract | | \$xxx |

In the worksheet, the gain recognized by the affiliated construction company will be eliminated. This is done in the LT3 Entry:

| | | | |
|---|-------------------------------------|-------|-------|
| D | Earned Income on Long-Term Contract | \$xxx | |
| C | Construction in Progress | | \$xxx |

Example 13 (Continued)

Assume that the Parent in Example 13 uses the Percentage of Completion method. The Parent will book half of its profit on the construction contract at the end of the first year:

| | | | |
|---|-------------------------------------|----------|----------|
| D | Construction In Progress | \$50,000 | |
| C | Earned Income on Long-Term Contract | | \$50,000 |

Inter-company Debt

Affiliated companies often loan funds to each other. On their books they need to reflect this as an asset (the lender) and a liability (the borrower). If you reported the operations of the two companies as if they were one company, nothing has happened except that funds were shifted from one account to another.

On the books of the affiliates, however the inter-company debt (the principal) must be eliminated in the LN 1 Entry (Long-Term Note):

| | | | |
|---|------------------|--------------|--------------|
| D | Notes Payable | \$ principal | |
| C | Notes Receivable | | \$ principal |

Interest has accrued on this inter-company debt. Any interest that remains accrued, but unpaid at the end of the year has been recorded as a payable and a receivable. This inter-company debt (the unpaid interest) must also be eliminated in the LN2 Entry:

| | | | |
|---|---------------------|--------------------|--------------------|
| D | Interest Payable | \$ unpaid interest | |
| C | Interest Receivable | | \$ unpaid interest |

In addition, the affiliated parties have recognized interest revenue and expense on this loan. These income statement accounts must also be eliminated in the LN3 Entry:

| | | |
|----------------------|-------------------|-------------------|
| D. Interest Income | \$ total interest | |
| Cr. Interest Expense | | \$ total interest |

Example 14

Assume that on July 1, 20x1, the Parent made a loan to its 80% owned Subsidiary. The loan is for \$10,000 at 8% for one year with interest payable at maturity.

The following accounts and their balances appear on the December 31, 20x1 trial balances of the affiliated companies:

| | <u>Parent</u> | | <u>Subsidiary</u> | |
|---------------------|---------------|------------------|-------------------|-----------|
| Notes Receivable | \$10,000 | Notes Payable | | -\$10,000 |
| Interest Receivable | 400 | Interest Payable | | -400 |
| Interest Income | -400 | Interest Expense | | 400 |

We need to eliminate the Inter-company note in the LN 1 Entry:

| | | | |
|---|------------------|----------|----------|
| D | Notes Payable | \$10,000 | |
| C | Notes Receivable | | \$10,000 |

We need to eliminate the interest receivable and payable in the LN 2 Entry:

| | | | |
|---|---------------------|-------|-------|
| D | Interest Payable | \$400 | |
| C | Interest Receivable | | \$400 |

We need to eliminate the interest income and expense:

| | | | |
|---|------------------|-------|-------|
| D | Interest Income | \$400 | |
| C | Interest Expense | | \$400 |

With the LN Entries, the inter-company debt is completely eliminated from the consolidated financial statements.