

So, nothing particular in this process.

### **Direct consolidation technique**

By consolidating now carefully with the direct technique, we get the following consolidated accounts

P + A + B			
		Capital	500
		Reserves	300
Equity value (A)	112	Result	50
Equity value (B)	<b>24</b>	Conso. Res.(A)	32
		Conso. Res.(B)	4
Other assets	1,400	Other liabilities	650

where

- Consolidated reserves (A) =  $32 = 40\% * [200 + 100 + 30] - 100$
- Consolidated reserves (B) =  $4 = 12\% * [100 + 80 + 20] - 40\% * 50$
- Equity value (A) =  $112 = 40\% * [200 + 100 + 30] - 40\% * 50$
- Equity value (B) =  $24 = 12\% * [100 + 80 + 20]$

On the Consolidated reserves side, nothing new to explain. We just apply the well-known formulas.

On the Equity values side, two remarks must be mentioned

- First, the percentage used to evaluate the equity is the group percentage. We could say it is the integration percentage but the 3<sup>rd</sup> Parties percentage being zero, group and integration percentages are equal.
- Second, for company A, the equity value is calculated on what is called the "net equity" which is the equity less the financial investments in the consolidated companies.

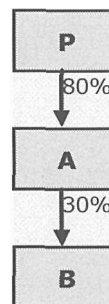
When taking into account these two remarks, we get the same consolidated accounts as those obtained by the stage technique.

## 1.2 Equity method company owned by a global integration company

We consider the following group where parent company P owns 80% of shares of company A which is consolidated by the global integration method.

This company owns 30% of shares of company B for which the equity method will be applied.

We will first consolidate the structure by the stage technique, considering company A as a consolidating company and B being consolidated by the equity method with 30%.



Once consolidated figures A+B are produced, company P will consolidate them by the global integration method.

This process can be done without questioning ourselves about possible mistakes. It is rather easy, with no traps.

Then, we will proceed the consolidation again by using the direct technique, but at the same time we will give some information to avoid some traps in this case.

### Stage consolidation technique

We start by considering companies A and B accounts

A			
Fin. Inv./B	50	Capital	200
		Reserves	100
		Result	30
Other assets	550	Other liabilities	270

B			
		Capital	100
		Reserves	80
		Result	20
Other assets	500	Other liabilities	300

and by consolidating them we get

A + B			
		Capital	200
		Reserves	100
Equity value	60	Result	30
		Conso. Res.	10
		Minority int.	0
Other assets	550	Other liabilities	270

where

- Consolidated reserves = 10 = 30% \* [100 + 80 + 20] - 50

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- Minority interests are 0 because B is an equity method company
- Equity value = 60 = 30% \* [100 + 80 + 20]
- Other assets and liabilities are those from A because of the equity method

by just applying the definitions we have explained in Part 2.

We can now consolidate one stage higher, at company P level, with the following accounts

P			
Fin. Inv./A	150	Capital	500
		Reserves	300
		Result	50
Other assets	1,350	Other liabilities	650

giving the final consolidated accounts

P + [A + B]			
		Capital	500
		Reserves	300
Equity value	60	Result	50
		Conso. Res.	122
		Minority int.	68
Other assets	1,900	Other liabilities	920

where

- Consolidated reserves = 122 = 80% \* [200 + 100 + 30 + 10] - 150
- Minority interests = 68 = 20% \* [200 + 100 + 30 + 10]
- Equity value, other assets and other liabilities are now processed as usual by the global integration method.

So, nothing special to say about this stage technique that works perfectly well.

### **Direct consolidation technique**

This consolidation technique requires to be more careful.

First, we have to calculate the indirect financial percentage for companies A and B which are respectively 80% for A and  $24\% = 80\% * 30\%$  for B. That's indeed the percentage we will use to calculate the group part in the Equity of company B.

On the other hand, let's take temporarily the place of the 3<sup>rd</sup> Parties which are present as shareholders of company A. It is clear that the value of their shares depends on 30% of the value of B. Moreover, if B paid dividends, these 3<sup>rd</sup> Parties would receive indirectly  $6\% = 20\% * 30\%$  of them.

That means we have to consider the existence of a minority interest percentage of 6% in company B, besides the fact that this company is consolidated with the equity method.

Here are the consolidated accounts by applying the direct technique and we can see there are the same as the ones we obtained by the stage consolidation.

		P + A + B
		Capital 500
		Reserves 300
Equity value	60	Result 50
		Conso. Res.(A) 114
		Conso. Res.(B) 8
		Minority int. (A) 56
		Minority int. (B) 12
Other assets	1,900	Other liabilities 920

Here are the corresponding comments

- Consolidated reserves (A) =  $114 = 80\% * [200 + 100 + 30] - 150$
- Consolidated reserves (B) =  $8 = 24\% * [100 + 80 + 20] - 80\% * 50$
- Minority interests (A) =  $56 = 20\% * [200 + 100 + 30] - 20\% * 50$
- Minority interests (B) =  $12 = 6\% * [100 + 80 + 20]$
- Equity value =  $60 = [24\% + 6\%] * [100 + 80 + 20]$

The Consolidated reserves of B are calculated with the indirect financial percentage in the equity and the financial percentage in A, just as explained in Part 2.

Minority interests in A are calculated on the basis of its equity less the financial investments.

The equity value of company B is calculated on the basis of its equity in which we apply the indirect financial percentage (24%) plus the 3<sup>rd</sup> Parties percentage (6%).

The addition of both percentages is called the integration percentage, which is equal to 30%. This definition is to be compared to a global integration

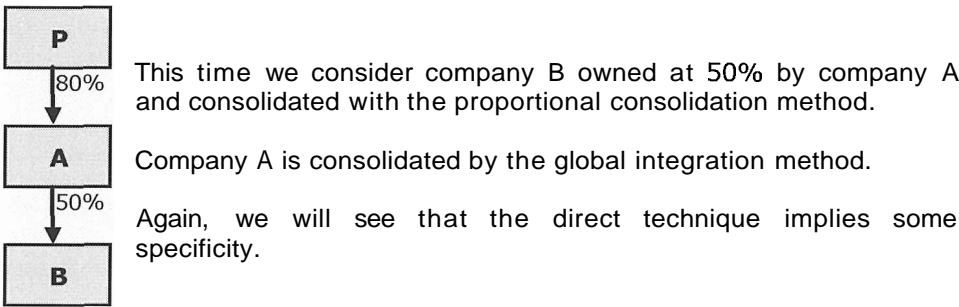
company for which we apply also an integration percentage on all assets and liabilities. This integration percentage is 100% equal to the group percentage plus the 3<sup>rd</sup> Parties percentage.

What happens if we don't apply this particularity?

The consolidated accounts will remain in balance and unfortunately we will not get a red light saying something is wrong.

However the balance sheet will contain two errors, an equity value equal to  $48 = 24\% \times 200$  instead of 60, so a difference of 12, and minority interests missing these 6% and equal to 12, so the same difference on both sides of the balance sheet.

**1.3 Proportional integration company owned by a global integration method company**



**Staae consolidation techniaue**

We start by consolidating company B by the proportional method in company A on the basis of the following statutory accounts

A				B			
Fin. Inv./B	50	Capital	200			Capital	100
		Reserves	100			Reserves	80
		Result	30			Result	20
Other assets	550	Other liabilities	270	Other assets	500	Other liabilities	300

A + B			
		Capital	200
		Reserves	100
		Result	30
		Conso. Res.	50
Other assets	800	Other liabilities	420

where

- Consolidated reserves =  $50 = 50\% * [100 + 80 + 20] - 50$
- Other assets =  $800 = 550 + 50\% * 500$
- Other liabilities =  $420 = 270 + 50\% * 300$

We then consolidate A + B in P by the global integration method on the basis of the following statutory accounts for P

P			
Fin. Inv./A	200	Capital	500
		Reserves	300
		Result	50
Other assets	1,300	Other liabilities	650

giving

P + [A + B]			
		Capital	500
		Reserves	300
		Result	50
		Conso. Res.	104
		Minority int.	76
Other assets	2,100	Other liabilities	1,070

with

- Consolidated reserves =  $104 = 80\% * [200 + 100 + 30 + 50] - 200$
- Minority interests =  $76 = 20\% * [200 + 100 + 30 + 50]$
- Other assets and liabilities are just the addition of corresponding accounts

### Direct consolidation technique

The group percentage of company B is  $40\% = 80\% * 50\%$  and, like the previous equity method case, the 3<sup>rd</sup> Parties with their 20% in company A have also a financial interest in B for  $10\% = 20\% * 50\%$ .

The same principle applies here by calculating an integration percentage for company B equal to group percentage (40%) + 3<sup>rd</sup> Parties percentage (10%).

By doing this we get the following consolidated accounts

P + A + B			
		Capital	500
		Reserves	300
		Result	50
		Conso. Res.(A)	64
		Conso. Res.(B)	40
		Minority int.(A)	56
		Minority int.(B)	20
Other assets	2,100	Other liabilities	1,070

in which

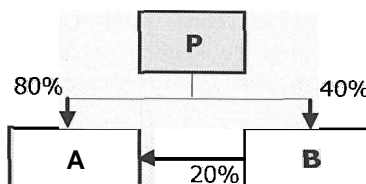
- Consolidated reserves(A) = 64 = 80% \* [200 + 100 + 30] - 200
- Consolidated reserves(B) = 40 = 40% \* [100 + 80 + 20] - 80% \* 50
- Minority interests(A) = 56 = 20% \* [200 + 100 + 30] - 20% \* 50
- Minority interests(B) = 20 = 10% \* [100 + 80 + 20]
- Other assets = 2100 = 1300 + 550 + 50% \* 500
- Other liabilities = 1070 = 650 + 270 + 50% \* 300

The conclusion is similar to the one concerning company B as an equity method company. There are minority interests to calculate in the equity of B and again, we have to consider the integration percentage as 40% + 10%.

If we forget these 10% of Minority interests and, if in the same time, we apply the proportional method with 40% instead of 50%, the consolidated balance sheet will be in balance and no "red light" will tell something is wrong.

## 1.4 An equity method company owns shares of a global integration method company

This case considers company A consolidated with the global integration method and company B with the equity method. Moreover, B owns 20% shares of A.



The consolidation of this structure will show how easy it is to apply the direct technique while the stage technique brings some difficulties.

We will start by using the direct technique.

### Direct consolidation techniaue

We provide the statutory accounts of each company, reflecting the above structure

P			
Fin. Inv./A	200	Capital	500
Fin. Inv./B	70	Reserves	300
		Result	50
Other assets	1,230	Other liabilities	650

A			
		Capital	200
		Reserves	100
		Result	30
Other assets	600	Other liabilities	270

B			
Fin. Inv./A	50	Capital	100
		Reserves	80
		Result	20
Other assets	450	Other liabilities	300

which are followed immediately by the consolidated figures and the necessary comments relevant to the direct technique used. Of course, it will be noticed that the indirect percentage in A is  $88\% = 80\% + 40\% * 20\%$  and so 12% of 3<sup>rd</sup> Parties percentage. Company B is consolidated by the equity method with a percentage of 40%.

P + A + B			
		Capital	500
		Reserves	300
Equity value(B)	60	Result	50
		Conso. Res.(A)	70.4
		Conso. Res.(B)	10
		Minority int.(A)	39.6
Other assets	1,830	Other liabilities	920

- Consolidated reserves (A) =  $70.4 = 88\% * [200 + 100 + 30] - 200 - 40\% * 50$
- Consolidated reserves (B) =  $10 = 40\% * [100 + 80 + 20] - 70$
- Minority interests (A) =  $39.6 = 12\% * [200 + 100 + 30]$
- Equity value (B) =  $60 = 40\% * [100 + 80 + 20 - 50]$



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For this last account, we consider the net equity of company B which is the equity less the financial investments in consolidated companies.

### Stage consolidation technique

The difficult issue with this structure is not the fact that company B is consolidated by the equity method. The real problem is the difficulty to identify stages in this structure.

The stage technique approach supposes to consolidate two companies at a time, starting from the bottom of the structure until we remain with the parent company only.

We could start with P and A and then P and B but then we would remain with a 20% participation from B into A not consolidated. But what can we do else?

Let's try the following.

### Stage 1 : P consolidates 80% of A by the global integration method

This consolidation produces the following consolidated accounts

P + 80% A			
Fin. Inv./B	70	Capital	500
		Reserves	300
		Result	50
		Conso. Res.(A)	64
		Minority int.(A)	66
Other assets	1,830	Other liabilities	920

where

- Consolidated reserves (A) =  $64 = 80\% * [200 + 100 + 30] - 200$
- Minority interests (A) =  $66 = 20\% * [200 + 100 + 30]$

And of course, these consolidated accounts still contain the financial investment on company B for 70.

### Stage 2 : B consolidates 20% of A by the equity method

B + 20% A			
Equity value(A)	66	Capital	100
		Reserves	80
		Result	20
		Conso. Res.(A)	16
Other assets	450	Other liabilities	300

No particular problem with this consolidation where

- Consolidated reserves (A) = 16 = 20% \* [200 + 100 + 30] - 50
- Equity value (A) = 66 = 20% \* [200 + 100 + 30]

Staae 3 : [P+80%A] consolidates 40% of [B+20%A] bv the eauityv method

And again nothing particular in this final consolidated balance sheet

[ P + 80% A ] + 40% [ B + 20% A ]			
		Capital	500
		Reserves	300
Equity value(B+20%A)	86.4	Result	50
		Conso. Res.(A)	64
		Conso. Res.(B+20%A)	16.4
		Minority int.(A)	66
Other assets	1,830	Other liabilities	920

where

- Consolidated reserves (A) are just coming from the "pre" consolidated figures of [P+80%A]. They are part of the consolidating entity reserves.
- Consolidated reserves (B+20%A) = 16.4 = 40% \* [100 + 80 + 20 + 16] - 70
- Equity value (P+80%A) = 86.4 = 40% \* [100 + 80 + 20 + 16]

But this final consolidated balance sheet is not the same as the one produced by the direct technique!

The difference on the equity value is 26.4 higher and the minority interests are also higher for the same amount, but even if the consolidated reserves are the same with an amount of 80.4.

Which approach is wrong ?

Let's consider first the Minority interests account.

The group has an indirect financial percentage of 88% in company A which is controlled and as such, consolidated by the global integration method. This gives 12% of minority interests. In the stage 1 approach, we have considered a global integration of A with 80%. So 8% of company A equity are given to the 3<sup>rd</sup> Parties instead of keeping them on group side and

$$8\% * [200 + 100 + 30] = 26.4$$