14 JULY 2000

TOTALFINA / ELF AQUITAINE CASE STUDY

Suggested answers

Synergies - Control premium:

1. *What impact will expected synergies from the link-up of the two groups have on decisions relating to the control premium paid by Total Fina to the Elf Aquitaine shareholders?*

   If we assume that markets are efficient (one would hardly imagine otherwise for the second and third largest market caps in France – around €40bn each with freefloats of 90°), paying a control premium in order to take over a group results in a destruction of value in the amount of the premium paid.

   At the same time, this transaction could result in the creation of value thanks to the synergies generated by the link-up. More value for shareholders will be created than destroyed if the control premium paid is lower than the value of the synergies created by the link-up.

2. *Total Fina estimates the synergies generated after three years at €1.2bn before tax. In your view, how will the market value the synergies? On the basis of Total Fina's P/E ratio?. On the basis of Elf Aquitaine's P/E ratio? Or on the basis of a smaller P/E ratio? Why?*

   The market values synergies on the basis of a P/E ratio well below that of Elf or Total Fina, for the following reasons:

- At a macroeconomic level, the synergies resulting from a link-up would give the group an advantage, although this advantage would probably be short lived, given that other competing groups are also likely to merge in order to generate similar synergies (causing a wave of mergers). Very soon, since most of the players would be benefiting from new synergies, they would gradually start to pass on the benefits to customers, suppliers and more generally the market, through lower retail prices. Since they will not last very long, a high P/E ratio would not be justified

- There is no reason why the annual value of synergies, specifically the share accounted for by negative synergies (cost savings) should continue to grow over time, and even less reason why it should enjoy the same growth rate as other profits, which is why the P/E ratio is low.

  Obviously, since the synergies only reach cruise speed after three years, their P/R ratio can only but be lower than the group's current P/E ratio, although this has a very small impact compared with the above.

3. *If we assume that the market would value the synergies announced at €10bn, what is the maximum premium that should be paid per Elf Aquitaine share, in euros and as a %? Why?*

If the market values these synergies at €10bn, Total Fina should pay a control premium of no more than €10bn. Any more than that and the company would be destroying value for its shareholders.

So, the maximum premium that should be paid is $\frac{10\text{ Md euros}}{252\text{ M d'actions Elf}} = €39.7$

or $\frac{39{,}7\text{ euros}}{146\text{ euros (dernier cours de l'action Elf)}} = 27.2\ \%$.

4. *Given that Total Fina had decided to make a public exchange offer and not a cash offer for Elf Aquitaine's shares, why was it vital that the Total Fina share price should not drop when the deal was announced and in the days that followed?*

If when the operation is announced, the Total Fina share price drops and remains low, the control premium paid to Elf shareholders will also fall, and the Total offer will become less attractive to Elf shareholders.
Additionally, a drop in the price of the Total Fina share would show that the market was not very optimistic about this deal.

Workings of the deal

5. *The Total Fina bid for Elf Aquitaine could be an all share offer or a mixed paper/cash offer with only a tiny portion paid in cash.*
Provide a list of the pros and cons of a cash component in bid paid mainly in shares from a financial, accounting, tax and stock market point of view. Look at it from both the Total Fina and Elf Aquitaine point of view. State your views.

	Paper + cash	Counter arguments
Pros:	- Higher return on equity (leverage effect)	- - This is no sign of value creation, as the risk increases
	- Higher EPS growth of the new group (leverage effect) since inverse of cost of debt after tax (1/3% = 33) is higher than Elf's P/E ratio after premium	- - Ditto
	Makes the offer more credible – cash is something concrete and real	
	- Signal that the Total Fina share is not seen as overvalued by Total Fina's management	- Impact would obviously be limited by the relative share of cash in the offer
	- - Less dilution of Total Fina's shareholders' control over the new entity	- Ditto
	- Makes the bid less sensitive to a fall in the Total Fina share price	- In this case, this argument is not really relevant, as the shares in the two groups are very widely held
Cons:	- Negative impact on Total Fina's borrowing capacity	- Impact would obviously be limited by the relative share of cash in the offer
	The pooling of interests regime cannot be relied on, which means that goodwill is not recognised and so cannot be depreciated.	
	- Undermines the credibility of the message – a merger of equals	
	- A cash component of more than 10% would mean that the new entity could not defer tax on capital gains made on the transaction, which would be due immediately	

Total Fina went for an all share offer so as not to weigh down its financial structure and in order to present the takeover bid as a merger of equals.

6. *Could Total Fina take the risk of including a contingent value rights certificate (CVR) in its offer? Why?*

No, because the share price of an oil group is heavily dependent on the price of oil, over which the group has little control or influence. So, the merger could be a success and the expected synergies generated, but the share price could still fall or fail to rise, which would trigger payment under the CVR agreement, due to fluctuations in the oil price and not to management's performance.

Analysis of the transaction

7. *Calculate EPS, over the next three years, for a Total Fina shareholder and for an Elf Aquitaine shareholder, if the exchange ratio is four Total Fina shares for three Elf Aquitaine shares, and compare it with the position before the Total Fina bid.*

   Assume that the offer has a 100% success rate, that the merger is completed on 1 January 2000, and that pre-tax synergies are €0.4bn in 2000, €0.8bn in 2001 and €1.2bn in 2002. Corporate income tax is estimated at 36%. The market should value the synergies at €10bn.

   Number of shares of new group:

   356 million: number of existing Total Fina shares
   +252m x $\frac{4}{3}$ = 336m: number of new Total Fina shares created to pay the Elf shareholders.
   = 692 million

   New earnings:

	Net earnings Total Fina	+	Net earnings Elf	+	After tax synergies	=	Net earnings of new group
2000	2172	+	1714	+	400 × (1-36%)	=	€4,142m
2001	2742	+	2192	+	800 × (1-36%)	=	€5,446m
2002	3062	+	2344	+	1200 × (1-36%)	=	€6,174m

   New EPS

	For Total Fina shareholder		For Elf shareholder	
	Before	*After*	*Before*	*After*
2000	6,1 €	$\frac{4142}{692}$ = 5,99 €(-1,8%)	6,8 €	5,99 €× $\frac{4}{3}$ = 7,99 €(+17,5%)
2001	7,7 €	$\frac{5446}{692}$ = 7,87 €(+2,2%)	8,7 €	7,87 €× $\frac{4}{3}$ = 10,5 €(+20,6%)
2002	8,6 €	$\frac{6174}{692}$ = 8,92 €(+3,7%)	9,3 €	8,92 €× $\frac{4}{3}$ = 11,9 €(+27,9%)

   Don't forget that the Elf shareholder is exchanging one Elf share for 4/3 Total shares, so EPS for the Elf shareholder on the Elf share is equal to 4/3 of the EPS of the new group.

8. *What do you think of the above calculations? How much is the total premium paid by Total Fina? Would this be an attractive offer for the Elf Aquitaine shareholder? And for the Total Fina shareholder? Should the Total Fina share rise or fall when the operation is announced? By how much? Why?*
Does Total Fina have any margin to up its offer, if this becomes necessary?

The Total Fina offer values the Elf share at $\frac{4}{3} \times €126 = €168$, which is + 15.1% (168 / 146) on the latest Elf share price.

The merger very quickly enhances earnings per share for the Total Fina shareholder, as a result of the synergies created, only a portion of which is passed onto the Elf shareholder (15% premium compared with 27% if all of the synergies had been passed onto the Elf shareholder, see question 3).
Without the synergies, EPS for the Total Fina shareholder would have been diluted as the Total Fina P/E ratio is lower than Elf's, factoring in the 15% premium (20.7 < 21.5 x 1.15 = 24.7).
From the outset, the merger enhances earnings per share for the Elf shareholder as a result of the premium paid and the share of synergies generated.

Change in EPS after the transaction, in this case, is a relevant factor, since:
- The risk of capital employed of the two groups is identical
- The financial structure risk of the two groups is the same (same net debts and same market capitalisation)
- There is no obvious reason why the growth rates of the two groups should differ

If the merger results in the generation of synergies worth €10bn, and only a portion of this amount goes to the Elf shareholder, the price of the Total Fina share should rise to reflect the share of the value of the synergies that the Total Fina shareholder gets.

Logically, after the announcement of the transaction, the new group should be worth: Total market cap before + Elf's market cap after + value of synergies = €36.8bn + €44.9bn + €10m = €91.7bn, of which $\frac{252 \times 4/3}{692}$ goes to the Elf shareholders, which is €44.5bn for 252 million shares, or a theoretical value of the Elf share of €177 (+ 21.2% the first share traded after the bid traded at €174). The value of the Total Fina share should rise to $\frac{91{,}7 \text{ MdE}}{692 \text{ M}}$ = €133, or 5.6%, factoring in the share of synergies retained by the Total Fina shareholder.

Accordingly, Total Fina does have some margin for manoeuvre, and could increase the size of the control premium from 15% (current level) to a maximum of 27%.

Counter bid by Elf Aquitaine

Following the launch of the Total Fina bid on 4 July 1999, Elf Aquitaine launched a counter bid by offering three Elf Aquitaine shares plus €190 for five Total Fina shares. Elf Aquitaine also announced that if its bid were successful, it would carve out the chemical activities of the

two groups and allocate the shares in this entity to the shareholders of the new Elf Aquitaine – Total Fina group.

This counter-bid was announced on 18 July 1999, when the last quoted price for the Total Fina share was €130 and for Elf Aquitaine share €176. This sort of counter-bid is known as a Pac-Man strategy, named after the popular video game in which each character that does not swallow its opponents is itself consumed.

9. *How much is the apparent premium of Elf Aquitaine's bid on 18 July 1999 for the Total Fina shareholder? What is this premium made up of? Look at the change in the Elf Aquitaine share price since 2 July 1999.*

The Elf bid values the Total Fina share at:

$\frac{3 \times 176 + 190}{5}$ = €143.6 per share, which is a premium of $\frac{143{,}6}{130}$ - 1 = 10.5%

This premium is based on the Elf share price which integrates a high proportion of synergies generated by the merger allocated to it by Total. Obviously the proportion of synergies allocated to Elf shareholders would be much lower under the Elf bid. Accordingly, the premium offered to the Total shareholders is largely imaginary, as only one of the two offers can succeed!

10. *Elf Aquitaine, admittedly on the assumption of different synergies (€2.5bn at an annual rate before tax after three years), stated that its offer was better because it would create more value, as it would result in a higher return on equity and a lower cost of capital for the new group after the carve out of the chemical activities. State your views. What could explain this?*

Note that the beta of oil assets does not differ substantially from the beta of chemical assets.

The cost of capital can only fall if the risk on capital employed drops. Since the chemical activities have the same beta as the oil activities, the risk is identical. There is no change in the risk of the new group and its cost of capital after the carve out. Any claim by Elf of a drop in its cost of capital, is merely a sign that its advisors have misunderstood Modigliani-Miller!

The increase in return on equity is explained by the cash component of the Elf bid, which puts the leverage effect into play. As for the additional creation of value, this is directly linked to the stronger synergies announced. In fact, neither the carve-out nor the change in financial structure can, in themselves, create value.

11. *If the market was banking on the success of the Elf Aquitaine bid for Total Fina, what should have happened to the Elf Aquitaine share after the announcement of its bid? And the Total Fina shareholder? Why?*

On the eve of the bid, and on the basis of annual synergies of €1.2bn after three years, the market valued the new group at 356m x €130 + 252m x €176 = €90.6bn. If the market believes in the Elf bid, it will now take into account synergies of €2.5bn and not €1.2bn/year after three years. The value of synergies thus rises from €10bn to €10bn ×

$\frac{2,5}{1,2}$ = €20.8bn, of which €10bn is already in the share prices (under the Total bid). When the Elf bid is announced, the market capitalisation of the new group should thus rise from €90.6bn + €10.8bn = €101.4bn, less the part paid in cash for the TotalFina shares, which is €190 × $\frac{356\ M}{5}$ = €13.5bn, or a total of €87.9bn.

On completion of the Elf bid, the new group will have 252 + 365 × $\frac{3}{5}$ = 465.6 m shares, of which $\frac{252}{465,6}$ = 54.1% for the former Elf shareholders (€47.5m) and 45.9% for the Total Fina shareholders (€40.4bn). The Elf share should then be worth $\frac{47,5\ MdE}{252\ M}$ = €188 + 7% on the last price before the Elf bid (€176) and the Total Fina share should be worth $\frac{13,5\ MdEuros + 40,3\ MdEuros}{356\ M}$ = €151, which is + 16% on the last price of the Total Fina share (€130) before the announcement of the Elf bid.

Conclusion

12. *In early September 1999, the shares were trading at the following prices:*

- *Elf Aquitaine: 167 €*
- *Total Fina: 125 €*

The market was expecting the Total Fina bid to succeed, rather than the Elf one? Why?

If the market had been expecting the Elf bid to succeed, the Total Fina share price should have settled at the exchange ratio offered, cancelling out any possibility of arbitrage.

The TotalFina share price should thus have been $\frac{3 \times 167 + 190}{5}$ = €138.2 compared with €125. It was obvious that the market had little faith in the Elf bid succeeding.

If the market had been expecting the Total Fina bid to succeed, the Elf share price should have been equal to 4/3 of the Total Fina share price, which is 1/3 x 125 = €166.7. The market was expecting the Total Fina bid to succeed, since arbitrage would not be an option.