

FGA case study – suggested answers

The central element of this case study is the criteria on which investment decisions are based. This case study involves the acquisition of a group, which, from a financial point of view, has to be treated like any other investment.

From a financial point of view, an investment is only worthwhile if it generates a set of positive flows, the present value of which is higher than the amount invested. In other words, if the net present value (NPV) is positive, or, and this amounts to the same thing, if the internal rate of return (IRR) is higher than the weighted average cost of capital (WACC), or, and this also amounts to the same thing, if the market value added (MVA) is positive. Accordingly, the best criteria for choosing an investment, **whatever that investment may be**, is NPV since it measures the creation of value resulting from the investment. NPV of €0.6bn means that value in the amount of €0.6bn has been created.

Obviously, before NPV can be calculated, future flows should be accurately forecast, any synergies between JV and FGA measured and included into the calculation, and an appropriate discount rate used. We'll get back to that in a minute.

Often outside analysts, and even in this case JV itself, are unable to calculate the NPV of investment in FGA, due to the lack of data. What they can then try and do is to work out whether the acquisition creates value or not by relying on other criteria that are easier to calculate but a lot less efficient, since they were not designed to measure the creation (or destruction) of value. It's a bit like trying to dig up your garden with a table spoon! You'll probably be able to do it, but you won't do half as good a job as you would have if you had used a spade.

And now, to the heart of the matter!

1. *What discount rate should JV use to calculate the NPV of the investment acquisition of FGA: 9% or 7.6%? Why?*

The rate of return required by investors (whatever it is) depends on just one factor – the risk on this asset (and never on the financial structure). In this case, we note that on investments in the insurance sector in the UK, the market requires a return of 9% and in the insurance sector in France, a return of 7.6%. The difference between these rates is only justified by a risk perception that is higher in the UK than in France (inflation in the UK is higher than in France, GDP growth rates are more volatile in the UK than in France, for example), which is why the British government borrows at a higher interest rate (4.6%) than the French government (3.2%).

If JV invests in the insurance sector in the UK, it will require a return of 9%, as this is the rate of return required of assets in the UK insurance sector. If JV invests in the insurance sector in France, it will require the required rate on investments in the insurance sector in France, which is 7.6%. Yes, this is lower than JV's weighted average cost of capital (9%), but having invested in France, JV's shareholders will require a lower rate of return as the risk on JV's share will fall since the group will be made up of UK and French insurance companies, and the risk in the French insurance sector is lower than in the UK. Conversely, if JV had invested in Russia or Pakistan, it could have required a 25% return on its investment (i.e. the required rate of return on the asset given its high risk, and not the present cost of JV's capital). After this investment, JV's shareholders would naturally have revised their required rate of return on JV upwards, since the group would have become more risky, with activities in the UK and Russia (or Pakistan).

If this line of reasoning is not followed, any group with a “low” cost of capital would then invest in a country with a “high” cost of capital, and would then have the impression that it had created value. In fact, it would only have been taking risks that were not properly remunerated and would actually be destroying value.

The NPV should thus be calculated at 7.6 % and it is positive by €0.6bn.

2. *Does the discount rate that JV should use to calculate the NPV of the investment acquisition of FGA depend on the way in which this acquisition was financed, 100% debt, 100% equity? Why?*

Since the required rate of return on an asset only depends on the risk of this asset, it does not depend on the financial structure. Contrary to what JV's finance director says in the file (for teaching purposes!), WACC is independent of the financial structure. Remember what Merton Miller said in his 1990 acceptance speech for the Nobel Prize in Economics: “It is the size of the pizza that matters, not how many slices you cut it into”.

Yes, debt (always) costs less than equity. Increasing the share of an inexpensive resource (debt) at the expense of a more costly resource (equity) does not, contrary to appearances, change the weighted average cost of capital, since doing so results in both equity and debt becoming more risky, which means that shareholders and creditors are going to increase their required rate of return, which will counterbalance the first effect. All in all, WACC is constant (for more information, see chapter 23 of the *Vernimmen*).

Accordingly, the last column of the table in appendix 2 is wrong, since WACC was calculated with the assumption that the cost of equity and the cost of borrowing are the same, whatever the financial structure.

3. *If the return on JV's equity drops immediately after the acquisition of FGA (totally financed by equity), was the transaction (acquisition of FGA) worth it from a financial point of view? Why?*

Return on equity is an accounting measure of profitability. You shouldn't ask more of it than what it is able to give. It does not measure the creation of value, and is thus not a relevant criterion for determining whether or not investing in FGA was worthwhile.

If JV buys FGA for €6.4bn (P/E ratio of 21.3), the immediate accounting return for JV on this investment is:

$$\frac{\text{FGA net income}}{\text{FGA purchase price}}$$

or 4.7% (the inverse of the P/E ratio). In these circumstances, it is hardly surprising that JV's return on equity falls from 15% to 11.1%! But if JV agrees to pay FGA on the basis of €6.4bn (P/E ratio of 21.3), this is because it hopes that FGA's current profits (€0.3bn) will increase as a result of synergies, market growth, etc., which would increase the rate of return in the future.

4. *If the return on JV's equity rises immediately after the acquisition of FGA (totally financed by debt), was the transaction (acquisition of FGA) worth it from a financial point of view? Why?*

If the return on JV's equity rises after the acquisition of FGA from 15% to 16.4%, this is merely because the acquisition was financed by debt, and because the leverage effect is coming into play. But there is no creation of value as such and this criterion cannot be relied on for judging whether the acquisition of FGA was a good thing.

The fact that the same criterion (return on equity) would appear to give two answers to the same question, depending on whether the transaction is financed by equity or debt, shows just how unreliable this criterion is. The return on an asset does not only depend on its performances as such, but on the way in which the acquisition is financed. Good financing never cancels out a bad investment!

5. *If JV's per share equity rises immediately after the acquisition of FGA (totally financed by equity), was the transaction worth it from a financial point of view? Why?*

If JV uses equity to finance the acquisition of FGA (i.e. through a capital increase), JV's per share equity will rise if, and only if, the issue price of the shares in the capital is higher than the current per share equity. In other words, this bears no relation to whether the investment acquisition of FGA was worthwhile or not. It is quite certain that JV's PBR is higher than one as its ROE (15%) is higher than its cost of equity.

6. *If JV's net profits rise immediately after the acquisition of FGA, was the transaction worth it from a financial point of view? Why? Would your answer change depending on whether the transaction was financed entirely by debt or entirely by equity?*

It is perfectly normal that JV's profits should rise after the acquisition of FGA, since the profits from both companies will be added together to form JV's new profits! In other words, this bears no relation to whether the acquisition of FGA was worthwhile or not.

If the acquisition had been financed by debt, the financial costs of the acquisition would have to be factored in, but this would not change the line of reasoning. This criterion is irrelevant!

7. *If JV's EPS rises immediately after the acquisition of FGA, was the transaction worth it from a financial point of view? Why?*

If the acquisition is financed by equity (a capital increase) EPS will increase automatically, as its P/E ratio is higher than that of FGA (25 compared with 21.3).

If the acquisition is financed by debt, JV's EPS will rise automatically, since the inverse P/E ratio of the FGA acquisition ($1/21.3 = 4.7\%$) is higher than the interest rate on the debt after tax (4.5%) and the effect of synergies (€100m) only strengthens this.

But this has nothing to do with the creation of value!

8. *If the net present value (NPV) of the investment acquisition of FGA is positive for JV, was the transaction worth it from a financial point of view?*

NPV is the best criterion for measuring value.

9. *Work out which is the best criterion for determining whether the acquisition of FGA is in the financial interests of JV. Was this transaction worth it? If so, how much value should it have created for JV?*

NPV. And since NPV is positive, the transaction was worth it. It should result in the creation of €0.6bn in value, since NPV only measures the creation of expected value.

10. *If in the battle for control over FGA, Marechali were to better the offer being contemplated by JV, by how much could JV still increase its offer? At this price, how much value would be created for JV?*

At the most, if it is to avoid destroying value, JV could increase its offer by the amount of NPV, i.e. €0.6bn. At this price, no value would be created for JV.

11. *List the pros and cons for JV of maintaining FGA's listing after it takes control of the company. What would you do if you were finance director of JB? NB: : there is no right or wrong answer to this question, there are only good or bad arguments*

For maintaining FGA's listing:

- Limit investment to $51\% \times €6.4\text{bn} = €3.3\text{bn}$, compared with €6.4bn if it had had to buy 100%
- Avoid ruffling French national feathers and maintain a decision-making centre in France (in appearance at least)
- Minority investors will finance 49% of FGA's needs without any threat to the control of JV

In favour of delisting:

- Difficult to implement synergies when JV only has 51% stake in FGA
- Difficult for JV to get its hands on FGA's free cash flow with only a 51% stake
- Administrative costs of listing
- Presence of minority shareholders which means that JV does not enjoy total freedom in decision-making regarding FGA

In this case, JV decided only to acquire a 51% stake in FGA, and accordingly maintained its listing so that it only had to spend €3.3bn and did not have to dig too deeply into its financial reserves, leaving it with enough for other acquisitions in the future.