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Finance Major

MASTER THESIS

Can we predict the "fair value" price in corporate finance?

A review of various means and methodology to value the company vs prices offered during M&A transactions (once can help him(her)self in looking at public fairness opinions)

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SUMMARY

This master's thesis aims at understanding the notion of price in corporate finance. In cases of external growth with mergers, acquisitions, or divestitures, the price is at the center of the decisions of the management, and the board of both parties. Whatever the circumstances of the transaction, paid in cash or shares, a price will be attributed to complete the acquisition. The price will be the illustration of the level of willingness the management demonstrates in order to get the transaction. Strategic and financial considerations actively drive the determination of price. Hence, we cannot neglect that a lot of psychological elements, or internal considerations of the potential acquirer (ability to pay in cash, synergies, …), and eventually some external events (the competition to get the target, an M&A wave in a specific sector or industry, …) can without any doubt have a say for the price of the transaction. But, by focusing on the price, we want to analyze if the notion of fair value, accounting notion that has been broadly developed with the IFRS to value a company in a context of a transaction, can be applied to the price. Our methodology is to start from the fair value, by defining precisely what is at stake and what methodology to follow to reach it. Then, we will analyze extensively the different factors that may or may not influence the price, and which in fact serves as a guideline to construct the price consciously or not. Research articles and relevant examples of acquisitions will serve as a basis for our demonstration. Although some of these factors will tell us, that there is a risk that the price should diverge a bit from the fair value price, this analysis is also very helpful for the management and board in their future acquisitions. This will make them aware of what should be done with regards to such circumstances to avoid overpayment. Lastly, we will make a special focus on the fairness opinions on the way they certify a deal and can comfort the different actors of the valuation of the fair value price that has been made. We will try to measure if they are the guarantee that the price considered as a fair value price

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ACRONYMS

CAPM: Capital Asset Pricing Model

CAPEX: Capital Expenditures

COGS: Cost of Goods Sold

D&A: Depreciation and Amortization

DCF: Discounted Cash Flow

DDM: Discounted Dividend Model

EBIT: Earnings before Interests, Taxes

EBITDA: Earnings before Interests, Taxes and Depreciation and Amortization

EPS: Earnings per share = Earnings/Number of Outstanding Shares

EV: Enterprise Value

IAS: International Accounting Standard

IFRS: International Financial Reporting Standards

M&A: Mergers and Acquisitions

NOPAT: Net Operating Profit After Tax

PBR: Price to Book Ratio = Market Capitalization/Book Value

PER: Price Earnings Ratio = Market Capitalization/Net Income

SFAS: Statement of Financial Accounting Standards

SPA: Share Purchase Agreement

US GAAP: US Generally Accepted Accounting Principles

WACC: Weighted Average Cost of Capital

INTRODUCTION

The value is commonly seen as an objective notion especially when we try to find the fair value. On the opposite, we often consider the price as a subjective notion which can be influenced by multiples factors: the buyer, its financial position, the mean of payment, the position in the market cycle or the potential synergies. There is in the price a more psychological dimension which is not contained in the value. This does not mean that the value does not evolve over time as we can see that the "fair value" has to be updated with the internal or external events that impact value.

So, according to **Paul Jorion** (1997), the value can be determined as the origin of the price. That's why we will focus on the main determinants of the fair value and see the different steps to reach a price for an M&A transaction. Moreover, **Paul Jorion** analyses more specifically "*the price and the value of a traded stock*[1]". To him, with a traded stock, we can observe a convergence of the share price or "*market price*[2]" with the value or "*natural price*[3]", expression taken from Adam Smith. In fact, the share price evolves with the law of offer and demand; especially to adjust to the value of the company obtained thanks to its expected cash-flows, and its potential of value-creation. However, we will see in details, that this view is not always valid in the context of some acquisitions, where we can observe a divergence of the price and what we can called the fair value price, which derives from the fair value of the company taking into account some fair adjustments to have a price.

Bowes (2007)[4] with a lot of humor in his article "Rules to acquire by" mentions for his fifth advice "*Don't shop when you are hungry*" referring to the risk there is for doing an acquisition when the management is too impulsive either because the price can be not enough negotiated and too high, or because the integration of the acquired company does not really fit the initial strategy which weakens the whole group. The consequence of these elements is overpayment. That's why in this thesis, we want to highlight all the factors that contribute to the determination of a price with a general view that can include all the main specific cases.

Since the 1990s, we have seen the emergence of two principal elements that impacted the M&A landscape: the notion of fair value has had an increasing place in the way to consider acquisitions, as the acquisition will be consequently recorded at fair value in the balance sheet of the acquirer. This all the more true as price has to be determined to be fair valued: on the contrary the company can be sanctioned by the financial community. The second element, linked to the first one, is the emergence of fairness opinions. The role of fairness opinions consists in valuing the terms and content of the transactions focusing on the price and eventually concluding on the fair character of the deal. Therefore, the fair value is at the center of the decision process.

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[1] **Paul Jorion** (1997)
[2] **Paul Jorion** (1997)
[3] **Paul Jorion** (1997)
[4] **Bowes** (2007)

Hence, the goal of our thesis is to detect if the fair value price can be predicted in corporate finance, and if fairness opinions play a key role in the value-extraction analysis to confirm this fair value price.

The first part (Section I.) is dedicated to defining the two concepts of value and price, as they will serve as a basis for the demonstration of this thesis: we will put forward the main specificities of both and show how we get a fair value for a company. Then, with the second part (Section II.) , we focus on the external and internal factors to the company that influence the price setting in the context of a transaction and highlight that due to certain circumstances the price can diverge from its fair value price. Eventually, with the third part (Section III.), we will wonder if we have the ability to predict the fair value price by analyzing the motivations and role of fairness opinions. We will try to measure if this notion of fairness for such a transaction is consistent within time, which induces that we have successfully predicted the fair value price at the closing of the transaction.

I would like to thank Nicolas Naillon to have accepted to head this master's thesis and to advise me in this research work.

I would also like to thank Pascal Quiry, whose discussion has been very useful relating to fairness opinions and the way they certify a deal.

SECTION 1 – THE NOTIONS OF VALUE AND PRICE IN CORPORATE FINANCE

The determination of the value and the price are two main notions in corporate finance, which are linked and follow some divergent logics that we will present here: the value aims at valuing intrinsically a company whereas the price gives a specific value in a context of a transaction.

A/ Price vs Value

1. Fair value definition

To determine the value of a company, we are interested in its fair value. The fair value is a notion that sounds objective, on which everybody tends to agree. On the contrary, a price is a very subjective notion that is linked to the structure of the market responding to the offer and demand scheme and also to some external and internal factors (Section II).

We are often used to hearing about fair value, especially with the new accounting regulations with IFRS 3R. "*The fair value is the amount for which an asset could be exchanged, or a liability settled, between knowledgeable willing parties in an arm's length transaction*[5]." As a consequence, it refers to a transaction price, but not necessarily to a market price, depending on what information is available. There are two major ways to assess the fair value that are going to be developed in Section I.B/ which are the income approach and the market approach.

Moreover, to determine a fair value, based on the listed peers comparable method, we may need to make some adjustments on premiums and discounts (See Section I. C). Hence, predicting the fair value does not mean that there is no premium or discount (calculated with the transaction price and the stock-market price at a defined date) but that these premium or discount are at the right or fair level.

In this thesis, we introduce the notion of fair value price. The concept is simple: we want to see if it makes sense to apply the notion of fair value to the price. Hence, a price obtained in the transaction process is qualified to be measured at fair value if we consider that for instance the premium or discount are fair considering the specific conditions of the transaction, both internal and external. This view relates more to an intrinsic analysis to confirm the fair value. But, by benchmarking the transaction price with past transactions price, or with comparable market capitalizations we retreat thanks to the appropriate premiums or discounts (Section I.B/1.) to obtain a value as if they were a corporate control transaction, and we check if the transaction price we have is consistent with these data.

[5] IFRS 3R

Why premiums and misevaluation really matter for a company? It obviously has an impact on the financial information disclosed, on the judgment the financial community is able to make on past acquisitions and performance of the acquired companies, thus it has an influence on future strategic decisions.

Let's focus on the change of the accounting regulation that occurred in the 2000s and detect how it has impacted the way companies consider the acquisition price for their further acquisitions with as the reference point the so-called fair value price.

Here, our main interest is how the purchase price is treated from an accounting point of view. This exercise is more commonly known as purchase price allocation. On this point, there is a convergence of US GAAP and IFRS. Before July 2001, firms did not really matter about acquisition premiums as they had two ways to allocate their purchase price. The first one is called "*pooling-of-interests*", which consists in aggregating all the assets and liabilities of the target company at its book value. The second one the "*purchase method*" implies that all assets and liabilities should be recorded at fair value, intangible assets like brand or patent recognized and the goodwill is the difference between the purchase price and the sum of [Assets + Liabilities @ Fair Market Value + Intangible assets recognized +Deferred taxes assets or liabilities]. In the US, from July 2001, it is compulsory to use "*the purchase price*" method and no longer the "*pooling-of-interests*" method accepted if you complied with a list of criteria. In IFRS, IFRS 3R approved in 2008 is the equivalent of SFAS 141R,which implies that the fair value is actually prevailing.

Theoretically, it has some huge consequences on the balance sheet management as an overpaid transaction will imply a higher goodwill, which is not amortized but tested with an impairment test (once a year in IFRS with IAS 36, and with SFAS 142). Before, if you used the "*pooling-of-interests*" method and you overpaid an acquisition, there was no real disadvantage for the acquirer.

This change in regulation makes us think that this will have an impact on the way firms will perceive the transaction price by lowering the premiums, so that the transaction price should be roughly in line with the fair value price. According to **Komiak** (1990), there is no real change observed for the level of premiums paid after this change of regulation in the accounting field. Therefore, we have to explain premiums by other internal and external factors (See Section II).

The fair value is at the center of all reasoning in corporate finance, as it is a way to assess with the more accuracy the value of a business entity and thus its power of value-creation.

2. The role of investment banks for setting a price

As mentioned earlier, a price is a very specific notion that uses the value as a basis, but whose objective is to link a buyer and a seller through a transaction. That's why we understand, that there are negotiations on the price to be paid upward or downward to make the transaction

achieved. Hence, the price is more complex and can be much more volatile than the fair value depending on the interests of the counterpart.

The role of investment banks is at the center of the process to determine the price paid in a transaction. Our intuition is that they can be very helpful in case of real uncertainty on the valuation of the target, in order to predict the fair value price.

The role of investment banks can be seen as controversial as they are paid by the company involved in the deal. Fees are in fact success fees paid in case of a successful completion of the deal: they are proportional to the transaction price, most of the times 1% of the value of the deal but it can go from 0.5% to 5%. The banks can on top of their success fees negotiate a retainer fee, mainly in the case of a sell-side mandate; or a discretionary fee in order to reward the bank that has accomplished an outstanding job.

The question of the fees encourages us to understand what is at stake in the price-setting.

First, let's point out the negative aspects that fees can have on the valuation process. According to **Kolasinski**, **Khotar** (1998), fees can push bankers to overestimate the transaction price, so that they can maximize their fees in case of a buy-side mandate. Moreover, according to **Jemison**, **Sitkin** (1986), bankers sometimes neglect their own judgment to follow the one of their customer in order to make him satisfied with its advisory. This leads us to think that bankers can seek for a higher as possible transaction price, which is not necessarily in the interest of the acquirer.

On the contrary, we will develop that bankers can have a real value, especially with their industry insight, the model they use and the legal and contractual aspects of the transaction on which they have acquired a strong expertise. It is important to remember that as bank are paid with success fees, if they want to be paid, they need to complete the transaction, which implies that the valuation should be fair, so that the transaction price converges towards the fair value price.

But, do investment banks have the ability to develop a strong negotiation power in order to reduce the premium paid by the acquirer? Investment banks with their knowledge of the industry and of the transaction process help the company on target screening, and more importantly on the deal valuation. This was pointed out by **Bowers**, **Miller** (1990): the investment bankers play a role with the valuation advisory on the level of premiums paid by client. Can we infer that the choice of a specific investment banker will lead to an optimization of premiums paid? Top-notch investment banks have the ability to detect the target that will be highly value-creative for the acquirer especially in terms of price that can be offered compared to its value given the circumstances. Investment bankers also bring a bargaining power in order to lower as possible the premiums paid, but according to **Bowers**, **Miller**'s (1990) research, due to competition, no investment bank really differentiates from one another, on the bargaining power.

What is the influence investment bankers have on their client bullish on the transaction price? As developed by **Kim**, **Halebian**, **Finkelstein** (2011), Investment banks have an influence on

their acquirer client, in particular if they feel "*desperate*[6]" to do acquisitions and thus have a strong incentive to overpay. In this situation, investment bank succeeds in deterring them from overpaying. This is very powerful as they proved that the acquirer previous experience for doing acquisitions has on the contrary no strength to make them aware that they are overpaying.

Which link can we assume between premiums and investment banking? **Haunschild** (1994) developed an interesting relationship between acquisition premiums and investment bank. She proved that there is a link between the premium paid for an acquisition by an acquirer and the premiums that other acquirers paid with this same investment bank as advisor. This is mainly due first to a strong industry specialization developed by the investment banks or boutiques to be more value-added to corporate firms which then tend to select a specific bank after having decided themselves in which industry to invest; or secondly by the ability of the bank to "*spread premium models among firms*[7]". However, she found no correlation between the premium for a specific transaction with a certain bank and the premiums from prior transactions with other bank advisors.

> **As a whole, banks are a useful actor to optimize the transaction price, to predict the fair value price, and to convince the client of which best strategy to adopt; even if some form of conflict of interest may persist.**

After having precised the fair value, we will now present the methodology to determine it.

B/ In Corporate Finance, we use several methods to determine the fair value

1. Market approach : listed peers and transaction peers

The market approach is commonly used and appears to be the easiest one. In reality, this method needs to overcome some fundamental questions: which comparables to pick up and what multiples should we select?

First, it is important to select the good peers: they must operate in the same sector of activity, in the same geographic area and with the same level of risk for their capital employed. It means also that they should share the same profile in terms of growth and margin, and that the liquidity of their stock and market efficiency similar and eventually with comparable level of operating risk (competition,…) and financial risk (financial structure).

Second, there are several multiples that give an enterprise value, but the main task relies on selecting the best one for the considered company to value:

[6] **Kim, Halebian, Finkelstein** (2011)
[7] **Haunschild** (1994)

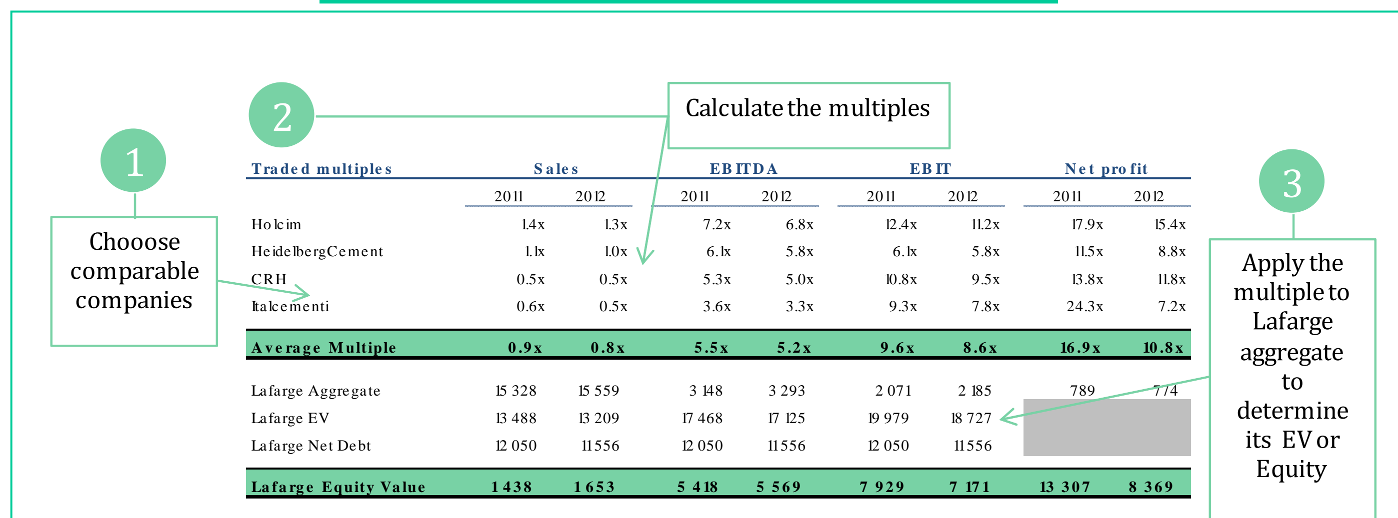
EV/ Sales ; EV/EBITDA ; EV/EBIT

with EV = Market Capitalization + Minority Interests + Net debt

The EV/Sales multiple does not include the profitability effect. If we use the EV/EBITDA multiple to value a highly intensive industry, it is as if you value it as a non capitalistic one, but with a lower ROCE. The EV/EBITDA should be used to value companies with comparable D&A or leasing accounting policies, otherwise, we need to make some adjustments.

The P/E = Market Capitalization/Net income gives a value of the equity. For this multiple, it is important to have the same financial structure between peers in terms of risk. A more leveraged company will bear a higher risk with the increase of the operating leverage as financial interests play the role of fixed costs. An equity-financed company will not be comparable to a leverage company. This will lead to an undervaluation of positive net cash companies on the basis of a P/E calculated on leveraged companies.

The different steps to use the traded multiples method



Traded multiples	Sales		EBITDA		EBIT		Net profit	
	2011	2012	2011	2012	2011	2012	2011	2012
Holcim	1.4x	1.3x	7.2x	6.8x	12.4x	11.2x	17.9x	15.4x
HeidelbergCement	1.1x	1.0x	6.1x	5.8x	6.1x	5.8x	11.5x	8.8x
CRH	0.5x	0.5x	5.3x	5.0x	10.8x	9.5x	13.8x	11.8x
Italcementi	0.6x	0.5x	3.6x	3.3x	9.3x	7.8x	24.3x	7.2x
Average Multiple	**0.9x**	**0.8x**	**5.5x**	**5.2x**	**9.6x**	**8.6x**	**16.9x**	**10.8x**
Lafarge Aggregate	15 328	15 559	3 148	3 293	2 071	2 185	789	774
Lafarge EV	13 488	13 209	17 468	17 125	19 979	18 727		
Lafarge Net Debt	12 050	11 556	12 050	11 556	12 050	11 556		
Lafarge Equity Value	**1 438**	**1 653**	**5 418**	**5 569**	**7 929**	**7 171**	**13 307**	**8 369**

❖ **Traded multiples**

Then we can use these multiples to determine historical multiples with past data of market capitalization, net debt and the financial aggregate (Sales, EBITDA, EBIT or Net Income) for the last three exercises.

We also use the current market capitalization and/or minority interests, net debt coupled with the projections of the financial aggregate for the last year and the next two fiscal year estimates.

The interpretation of a traded multiple is linked to the following words : RISK (financial and operational) – INTEREST-RATE – EXPECTED GROWTH OF EPS.

- The lower the interest rate, the higher the multiple
- The fastest the expected growth, the higher the multiple

- The higher the risk, the lower the multiple

The traded multiples help to determine the value of a company without control premium.

❖ <u>**Transaction multiples**</u>

The difficulty of this method relies on the ability to find information on transaction that occurred on comparable companies (same sector, growth and profitability profile, …), in the same geographic area, and quite recently to belong to the same economic cycle, with comparable percentage of control and mean of payment.

The difference of percentage of control between the sample and the target company on which to apply the multiple represents a real bias, especially if there is the acquisition of the control.

Moreover, the date at which the transaction occurs is key for the valuation. The economic conditions can vary from the economic cycle. We will come back to the M&A waves and the economic cycle in the next section.

The mean of payment can impact no negligibly the final price of the transaction especially if the acquisition is paid in cash or in shares. If the payment is made in shares, there is a tendency that the transaction price is overvalued. The exchange ratio is subject to the valuation of the acquirer that needs to be performed the same way.

The transaction price sometimes includes an earn-out clause, that establishes that the acquirer will pay a certain amount to the buyer if the financial criterion reflecting the operational performance of the target pre-determined at the time of the transaction is reached in x years time (can be expressed as an EBITDA multiple, …). The earn-out clause needs to be very clear between the buyer and the acquirer on the specific criterion to monitor and on the management actions not to pollute the calculation of this criterion in order to boost or to underestimate the earn-out. This is the case if the earn-out relies on an EBIT calculation and that some actions are taken to over or under estimate the value of the D&A, which impacts EBIT, and thus the earn-out to be paid. This earn-out is most of the times not included in the transaction price used to calculate the multiple.

There are also some call options commitments for the majority shareholders to buy the minority interests at a predetermined price. This price can be decorrelated from the value of the transaction price, and included in the Share Purchase Agreement. The transaction can be the consequence of such a put or a call option, at a price not linked to the fair value, which makes this transaction not acceptable for a typical sample.

The transaction multiples help to determine the value of a company with control premium. The value obtained is on a comparable basis higher than the one with the traded multiples due to the control premium.

2. Income approach

This is the most useful and accurate method as it relies on the cash-flows and the business-plan of the company.

There are at least several versions:

- Discounted Cash Flows (DCF): You discount free-cash flows with a WACC and you get an enterprise value
- Dividend Discount Model (DDM): You discount dividends with a cost of equity and you get a value of equity. This is useful for a company that is mature and has very steady and predictable dividends. This is also used specifically for the financial services sector in order to take into account the regulatory constraints.

There are several steps to follow to arrive to the fair value of the enterprise value.

❖ Historical analysis

It is important to understand past performance of the company in order to define what should be the cash-flows in the future.

We should then have a special focus on the level of sales growth, the EBITDA and EBIT margin, the level of CAPEX compared to the D&A, the sustainability of the working capital but also the way of financing and the level of the debt.

All this gives us indications about the performance of the company given the economic environment, its ability to resist to crisis or on the contrary to be affected and to impact it with lower margins.

❖ Prospective analysis

The next step is to project the main aggregates of the company.

Free cash-flows = NOPAT + D&A – Δ Working Capital Requirement – CAPEX

If it is a DDM, the idea is to project a net income and then to apply a normative pay-out ratio.

For the next five years, or more if the business cycle of such an industry is longer (aeronautics & defense project, building materials …) or a very cyclical business for which five years is not enough to turnaround the business, you need to project the sales forecasts, then the EBITDA Margin. Then, by analyzing the investment you should pay attention to the level of D&A compared to the CAPEX determined thanks to a depreciation table. The working capital requirement is obtained thanks to a % of sales, or by splitting it into its main components (inventories as a % of sales / trade payables as a % of COGS / trade receivables as a % of sales).

Beyond five years of forecast, it is too long to have a clear view of what is happening. So, we calculate a terminal value which in terms of sales growth is close to the inflation rate, the EBITDA margin should be close to a normative level, and the D&A should equal CAPEX, and the change in working capital also normative.

Then, we use the Gordon Shapiro formula

Terminal Value = Normative Free-Cash Flow / (WACC – growth rate)

1 — Calculate the WACC

Risk free rate	4.50%
Beta (Datastream)	1.35
Unleveraged beta	0.698
Leveraged beta	0.918
Market risk premium	7.50%
Cost of equity	**11.4%**
Cost of debt after tax	**5.03%**
WACC (K)	**9.3%**
Perpetuity growth rate	**2.0%**

3 — Calculate the terminal value

Sum of discounted FCF	8 405
Terminal Value	15 684
Enterprise Value	24 089
Last net debt (2010)	13 993
Equity Value	10 096

2 — Calculate the FCF thanks to a prospective analysis

4 — Discount the FCF and then the terminal value with the same factor than the last year

In M€	2010	2011	2012	2013	2014	2015	2016	2017	2018
Sales	16 169	15 328	15 559	16 453	17 274	18 008	18 638	19 150	19 533
Growth rate		*-5.2%*	*1.5%*	*5.7%*	*5.0%*	*4.2%*	*3.5%*	*2.7%*	*2.0%*
EBITDA	3 614	3 148	3 293	3 606	3 892	4 169	4 429	4 669	4 883
EBITDA/Sales	*22.4%*	*20.5%*	*21.2%*	*21.9%*	*22.5%*	*23.1%*	*23.8%*	*24.4%*	*25.0%*
(D&A)	(1 173)	(1 077)	(1 108)	(1 112)	(1 210)	(1 306)	(1 398)	(1 484)	(1 563)
(D&A)/Sales	*-7.3%*	*7.0%*	*7.1%*	*6.8%*	*7.0%*	*7.3%*	*7.5%*	*7.8%*	*8.0%*
EBIT	2 441	2 071	2 185	2 494	2 682	2 862	3 031	3 185	3 321
EBIT Margin		*13.5%*	*14.0%*	*15.2%*	*15.5%*	*15.9%*	*16.3%*	*16.6%*	*17.0%*
(Corporate tax on EBIT)	(840)	(713)	(789)	(900)	(968)	(1 033)	(1 094)	(1 150)	(1 199)
Corporate tax rate	34.43%	34.43%	36.10%	36.10%	36.10%	36.10%	36.10%	36.10%	36.10%
NOPAT	1 601	1 358	1 396	1 594	1 714	1 829	1 937	2 035	2 122
D&A	1 173	1 077	1 108	1 112	1 210	1 306	1 398	1 484	1 563
(Net CAPEX)	(1 331)	(1 169)	(1 065)	(1 268)	(1 327)	(1 386)	(1 445)	(1 504)	(1 563)
(DWCR)		23	(6)	(24)	(22)	(20)	(17)	(14)	(10)
Free Cash Flow	**1 443**	**1 289**	**1 433**	**1 413**	**1 575**	**1 729**	**1 873**	**2 002**	**2 111**
Discount period			1.00	2.00	3.00	4.00	5.00	6.00	7.00
Discounted FCF			**1 310**	**1 182**	**1 204**	**1 210**	**1 198**	**1 171**	**1 130**
WCR	440	417	423	448	470	490	507	521	532
WCR/Sales	*2.7%*	*2.7%*	*2.7%*	*2.7%*	*2.7%*	*2.7%*	*2.7%*	*2.7%*	*2.7%*

Hence, we have to be careful when assessing the terminal value as it mostly represents more than 1/2 of the total EV, and most of the times even more than 2/3.

Hence, this method is by far the most accurate because you try to really focus on details on the potential of value-creation of the company to value. Therefore, the risk is to be too optimistic and to project at infinity an unreachable ROCE !

❖ **<u>Discount rate calculation</u>**

To calculate the cost of equity, we use the CAPM formula:

$k_{equity} = risk_{free} + \beta_{releveraged} * (E(rm) - rf)$ with $E(r_m) - risk_{free}) = $ risk premium = 5%

β is calculated thanks to a sample of listed peers. For each company, we unleveraged the β thanks to the value of debt and equity of each peer.

$\beta_{unleveraged} = \beta_{leveraged} * (\text{Value of equity}) / [(\text{Value of debt})*(1\text{-Tax rate})]$

Then, we leverage the β thanks to the value of equity and debt of the company we want to value.

For the WACC, the formula is the following:

$WACC = k_{equity} * V_{equity} / (V_{equity} + V_{debt}) + k_{debt} * (1\text{-Tax rate}) * V_{debt} / (V_{equity} + V_{debt})$

k_{debt} corresponds to the 10-year government bond on the country in which is present the company to value.

The WACC should be consistent with the level of risk of the cash-flows.

The income approach is a widely-spread methodology that should prevail over the others, even if we have to be cautious with the assumptions to take to avoid a strong over or under- estimation of the fair value.

3. Adjusted net asset value approach

This method is used to value mainly holdings. The idea is to adjust the net asset value or equity value, which is an accounting value. It can also be used as the sum of the parts for a company with very different business units.

These adjustments include:

- Assets and liabilities have to be recognized at fair value:
  - ✓ It affects the net asset value if there is an unrealized gain or loss for the assets especially financial assets, after taking into account the tax effects
- Holding costs are discounted at perpetuity

- If there are some net operating losses, you value them separately by calculating how much tax you can recover using both tax carry backward or carry forward using the historical financial statements and the business plan
- Incorporation of all off-balance-sheets elements: bonus, pension, litigation

This is a very specific methodology, which is more appropriate for holdings, and for other business like distressed companies in order to give a lower bound value that can be reached based on a patrimonial approach.

These valuation approaches give complementary information depending on the specificity of the company to value: it enables to comfort our view by cross-checking the values in order to reach the fair value.

C/ Premiums and discounts applied to the value

Premiums or discounts have their role in the valuation process to predict the fair price. They mostly apply to the comparable method company, as the income approach already takes into account all these risks and specificities of the company (profitability, size, conglomerate, holding situation …).

Here, we will present the most important categories of premiums and discounts.

❖ **Control premium**

The control premium is measured as the % of difference between the transaction price and the share price at a given time (rumor and at the closing of the transaction).

When you acquire a company, most of the times, you take the control of it. A study carried out by **PwC**[8] in July 2011, showed that the average premium paid for an acquisition of an acquisition of a traded target is 27% at the rumor date and 17% at the announcement date. Financial investors pay on average 7% less for the premium as they do not benefit from synergies.[9]

But, this premium is not reflected in the listed peers comparable method. **Finnerty**, **Emery** (2004) suggests to apply the "*industry control premium*[10]", or if not available a 25% premium which corresponds to a normative level

Thanks to the control, the acquiring management can manage the company, impose its strategy, benefit from some synergies. The objective of the management is to maximize the gains he expects from the transaction and on the other hand the premium he has to pay.

[8] **Gintrac**, **Briclot**, **Charpentier** (2011)
[9] Source **Gintrac**, **Briclot**, **Charpentier** (2011)
[10] **Finnerty**, **Emery** (2004)

- **<u>Liquidity discount</u>**

The financial risk associated with a share relies in particular in the difficulty an acquirer may face to sell its shares, and thus a potential seller is forced to accept a liquidity discount. Low liquidity implies a higher volatility for the stock.

The difficulty is to assess the level of this discount. There is no real unanimity on its normative level as it is very specific to firms.

- **<u>Size discount</u>**

On the traded multiple method, if the company we are valuing is too small, then you need to apply a size discount to incorporate in the valuation the smaller size which can impact negatively the operating leverage with maybe higher sunk costs as a proportion of their cost base.

- **<u>Profitability discount</u>**

Using the comparable method, especially with the EV/Sales multiple, you do not include the profitability. Therefore, if the listed peers really differ in terms of profitability, it is necessary to apply a discount; otherwise the company to value will be overestimated.

- **<u>Minority interest discount: does it make sense?</u>**

Theoretically, you can easily think that a minority interest discount has to be implemented because of the difficulty to influence on the dividend policy, the inability to act on the strategy of the company, to change the management, to control the cash and to benefit from synergies.

Nevertheless, there is not necessarily some rationale behind this discount. **Hagge** (2004) believes that if dividends are not distributed, which restricts the access to cash to the minority interests, therefore the non distributed results will contribute to finance the activity and the minority interests will benefit later on from higher dividends. The idea is that they will in the future recover part of the value, thanks to reinvestment.

Another argument is that even though majority shareholders pay a premium, this does not mean that minority should pay a discount. The better illustration is that if a minority shareholder wants to sell its participation, he will get approximately the same price as a majority shareholder all the more as the company is listed or this sale is included in the SPA. Minority shareholders becomes attractive for existing shareholders who intend to increase their participation to become majority ones; or for shareholders aiming at taking control of the whole company.

So, **Hagge** (2004) argues that a minority discount has its sense when the minority interest is not protected by a shareholder agreement or when it concerns a private company, or a company in an emerging country where the regulation is not really developed.

- ❖ **Holding discount**

The specificity of a holding is to own financial assets. In theory, the holding discount is the difference between the value obtained with its market capitalization and with its net asset asset value. The illiquidity of some shares, the difficulty to create value, the risk and the cost of the debt much more risky when supported by the holding, and the complexity of some holding juridical structure justify this discount.

We can say that an average holding discount should be between 15% and 20%[11].

- ❖ **Conglomerate discount**

The idea behind this discount is that the value of the sum of the parties is lower that the value of each independent parties. The market believes that if a company has too diversified activities, it is destroying value which is reflected in the conglomerate discount.

This conglomerate discount should go between 10% and 20%[12].

The conglomerate discount can be cumulative with a holding discount.

Some shareholders can lobby for a split-up (when you split the original company in two and you distribute the shares of the two to the former shareholders), a split-off (it is a voluntary exchange of shares of the original listed company for the shares of a subsidiary) or a spin-off (a listed company owns a subsidiary and this subsidiary is making listed and its shareholders are the one of the originally listed company) for them in order to recover some value lost within the conglomerate. In France, in 2010, Accor was split between the Hotel division which still operates under the name Accor, and on the other part Edenred, the prepaid services division. What was at stake with this transaction is that they have to deal with the split of the debt as it was crucial for Edenred, which develops a business based on trust, not to be too much indebted (it cashes in the money of their clients before having given them a service in exchange). The debt of Accor Hotels became suddenly more risky so that Accor had to implement a strategy to manage its hotels and know which ones deserve to be kept.

It is necessary to detect which premiums or discounts are relevant to apply at the fair level to reach a fair value.

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[11] Source : “Primes et décotes dans le cadre des évaluations financières”, **Société Française des Evaluateurs**, 2008

[12] Source : “Primes et décotes dans le cadre des évaluations financières”, **Société Française des Evaluateurs**, 2008

SECTION 2 – FROM VALUE TO PRICE

To get a price, some factors influence the fair value determined with the methodology presented in the previous section. We need to anticipate the factors and to beware some of them in order to stay on the right way to predict the fair value price.

A/ External factors that affect the transaction price

1. Competition between bidders

We can easily guess that the competition between bidders will increase the offer price. Let's look more in details at the different views we can learn on valuation and competition.

There is an interesting approach developed by **Akdogu** (2011). To him, acquiring a company changes the competition landscape as it reinforces the acquirer which can increase its market share thanks to a new expertise; or benefit from cost savings. Therefore, it is reasonable for him that bidders offer a premium higher than the present value of the synergies, as there is a "*cost of losing the target*[13]". The "*cost of losing*[14]" is the adjustment variable which can tell you how much you can overpay over the value of the target and the synergies.

Price paid = Fair value of the target stand-alone + Present Value of Synergies + Cost of losing

If we come to competition, the more it is fierce, when there is one single target and several bidders willing to acquire it, the higher are the premiums. It is clear that the entrance in the bidding process of several contenders make the single initial bidder in a difficult situation as either he will not be the winning bidder or he will have to increase significantly its price. The initial bidder has no longer the certainty to win the bid as before. The losing bidder will also lose something for not having the target as there is a "*cost of losing*[15]". The competition is even more cut-throat when the two bidders have approximately the same level of synergies.

The higher is the "*cost of losing*[16]", the higher the premium is.

Bidders are also most of the times keen to pay more for the second target than for the first one, having all characteristics equal. This can illustrate merger waves circumstances (See Section II.A.3). If the notion of synergy really cares for a bidder, he will be inclined to increase significantly the price for the acquisition of the second target, compared to the first one. This is the issue of scarcity effect described below in the paragraph of merger waves.

The existence of the paradox of "*the winner's curse*" was underscored by **Varaiya**, **Ferris** (1987): a bidder wins the target in a competitive process because he has overvalued the target. The bidder has been successful but at certain price level, which is considered as above the fair

[13] **Akdogu** (2011)
[14] **Akdogu** (2011)
[15] **Akdogu** (2011)
[16] **Akdogu** (2011)

transaction price, in order to acquire control of the company. The first obstacle the bidder has to overcome is his own valuation of the target: most of the times, he has access to public information but there is still some uncertainty about the future cash-flows in order to build his own estimates. Each bidder has his own appreciation of the target depending on the synergies, and the forecasts, which can be very different. Therefore, if we come back to our competitive environment, the successful bidder will be the one that has offered the highest valuation compared to the others, and most of the times higher than the fair value price. As a matter of fact, the larger are the potential bidders, coupled with some uncertainty on the value of the target, the higher are the premiums offered. The conclusion of this research paper is highlighting the fact that if winning bidders construct their price offer such that it represents their fair value of the company, then the advice is to bid less in a competitive process, because most of the times it leads to overpayment.

Competition is one of the most important factors that has an impact on the overpayment, and which can be an obstacle to predict the fair value price.

❖ **The case of white-knight corporate takeovers**

White-knight acts in a competitive environment. It is a "*friendly biding firm actively sought by a target which is resisting acquisition by a hostile binding firm*"[17].

There are two opposite points of view on the overbidding issue for white-knights, developed in **Niden** (1993). But the competition argument seems to prevail over the synergy one, which leads to overpayment of white-knight bidders.

- Some argues that white-knights should be in a position not to overbid because of the "*maximum synergy hypothesis*[18]" developed by **Shleifer**, **Vishny** (1986). As the white-knight is considered as the preferred bidder for the target, he gets some private information in order to better model the synergies, which are by no means the highest compared to other bidders.
- This view on synergy is questioned by **Niden** (1993). To her, the synergies shared with a white-knight are similar with one from a hostile bidder, but also with a non white-knight if the process shows competition between bidders.
- The competition justifies that in fact white-knights are in the best position to overbid. In the M&A process, they enter after a first hostile bidder. As seen just before, competition in even more fierce for the subsequent bidders entering in the process, also proved by **Bradley**, **Desai**, **Kim** (1983).

Competition between bidders gives white-knights a strong incentive to overpay.

[17] **Niden** (1993)
[18] **Shleifer**, **Vishny** (1986).

2. Type of bidding process : public auction or private negotiation

To conclude an M&A transaction, they are two types of process: public auction or private negotiation. Do they have an impact on the price?

In a private negotiation, you have the flexibility to change the negotiation process, and to turn it into an auction process. Private negotiations provide much more flexibility than auctions that fit rules and deadlines. The confidentiality is in theory ensured.

With auctions, we have the idea that we can get a higher price as there is necessarily a competition between bidders. As there are confidentiality issues, we have to go quicker.

Agency cost seems to defend that auctions lead to higher transaction prices than private negotiations. This is offset by information cost that reminds that there is a cost for doing auctions.

However, academic research has not evidenced that one negotiation process or another maximizes the price you can obtain. We can refer to the paper of **Boone**, **Mulherin** (2007). They use a sample of transactions that took place in the 1990s, with ½ of auction and ½ of private negotiations and find out that there is no impact on the price given the process chosen. It had been demonstrated that competition and information costs tend to offset and there is no clear advantage for one process or the other. There are some clear downsides when the deal is made public, and it is very important to control this communication. On the contrary, given "*the target size and industry as well as the affiliation with the bidding firm*[19]", the private negotiation can appear to be a better option.

Auctions and private negotiations have their own specificities which lead to the same price. Auctions seem to be more attractive for the determination of the price but have in fact more constraints. Private negotiations are very flexible.

The prediction of the fair value price should not be affected by the mean of negotiation.

❖ **A sequential process**

How can the target benefit from the choice of one process to optimize its price? The idea developed by **Povel**, **Singh** (2006), is to play on the information asymmetry between bidders. We implement first an exclusive private negotiation with the best informed bidder. If the price offered is above the threshold, then the deal is made. If this first bidder is not interested in increasing its offer, there is another private negotiation with the less-informed bidder, who is very likely to have a better offer, which illustrates "*the winner's curse*" effect when the bidder which gets the deal is the one that has overvalued the company, because of less information. If on the contrary, the better-informed bidder is determined to follow the process by paying at least a minimum price, an auction process is opened with other bidders.

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[19] **Boone**, **Mulherin** (2007)

As a conclusion, this sequential process aims at increasing the price for a deal, forcing first the better informed to give a price consistent with its fair value.

3. Market economic cycle and merger waves

We do not buy the same company at the same price at the same date and at the same time in the merger wave. That's why to predict the fair value price we need to include these timing considerations.

First, it can be useful to confront the different causes explaining the emergence of a merger wave. On the one hand, we have the behavioral approach thinking that merger waves occur when stock market is not correctly valued: **Shleifer**, **Vishny** (2003) and **Rhodes-Kropf** , **Viswanathan** (2004) support this view. On the other hand, **Mitchell** , **Mulherin** (1996) proved that shocks within the industry (technology, regulation, deregulation,…) are at the origin of merger waves. **Hardford** (2005) develops a neoclassical theory in which "*merger waves occur in response to specific industry shocks that require large-scale reallocation of assets*[20]".

In terms on valuation, which is the subject of our interest here, **Rhodes-Kropf** , **Viswanathan** (2004) argues that when the market is overvalued, the price offered is necessarily overvalued compared to its fair price and targets are keener to accept. They go a bit further saying that the transactions are even more numerous, beyond the misevaluation issue, when "*growth opportunities are high or when firm specific discount rates are low*[21]".

An empirical study carried out by **Soegiharto** (2009) pointed out that higher premiums are offered in the transaction price during merger waves.

Bouwman, **Fuller**, **Nain** (2009) came to the conclusion that Market/Book Ratios during high market valuation were smaller than during low market valuation. This means that a higher multiple during low market valuation offset the market undervaluation. This is the same for the high market valuation. This seems rather logical.

In order to illustrate the fact that firms make more acquisitions when the stock market is bullish rather than bearish, let's look at an article written by **Milano** (2011). The merger waves and the M&A activity are driven by psychological aspects such as "*herd-like mentality*[22]". When a company notices that his peers are competing to acquire new targets, there is the fear to be put aside and to lose a competitive advantage. Moreover, companies seem to be more active in M&A when stock markets are at the top. For instance, "*over the last ten years, total US acquisition volume was nearly 70% higher in the five years when the S&P500 was above average than in the years where it was below average*[23]".

[20] **Soegiharto** (2009)
[21] **Soegiharto** (2009)
[22] **Milano** (2011)
[23] **Milano** (2011)

Thus, this makes us think about the valuation method used. As seen above, even if it is fair to have a higher premium during low valuation market, **Milano** points out that "*the median transaction premium in 2009 was 34%*[24]", in a bearish economic situation, compared with "*the 21% premium in 2006*[25]", in a bullish economic situation. On the contrary, "*it turns out that despite the higher premium, the absolute price paid in 2006 was a 25% higher multiple of book value -3- as compared to 2.4 in 2009*[26]". Hence, this is a good lesson on multiples: even if earnings-based are widely spread, they can comfort the acquirer that he is paying a reasonable price, but "*they do not provide as clear a signal of absolute pricing as price to book value does*[27]". Earnings-based multiples have to be carefully used especially if the economic cycle is changing, so we have to pay more attention to the real price we are paying.

Let's focus on the understanding on the evolution of a merger wave with **Akdogu** (2011). The price offered increases as the merger wave goes on, on a comparable basis. This is also linked to the scarcity effect as you are forced to overpay as you do not have the opportunity to buy one of its substitute. But what is surprising is that even if we are not completely at the end of the merger wave in this sector or/and expertise, and still some targets have the potential to be sold, there is a tendency that bidders will overbid. This means that towards the end of the wave, but not completely at its completion, bidders cannot really avoid overbidding. Thereby, you should consider being very prompt and buying your target at the beginning of a merger wave if you want to be sure not to overpay too much, even if some other considerations also enter into account.

Therefore, the "*cost of losing*[28]", defined above, will take a higher importance over the merger wave and will account for the higher overbidding, which will make the fair value price higher.

> **The cyclicality of merger waves reflect in the premium paid. This is also associated with the competition and the scarcity effects.**

Hence, doing an acquisition under such a competition scheme, specific economic conditions, and at a certain time in the M&A wave undoubtedly affect the fair value price contrary to the M&A process to go through, which seems to have little impact.

B/ Internal factors that affect the transaction price

1. Acquirer willingness to make acquisitions

❖ **<u>The case of corporate bidders</u>**

[24] **Milano** (2011)
[25] **Milano** (2011)
[26] **Milano** (2011)
[27] **Milano** (2011)
[28] **Akdogu** (2011)

Corporate bidders can face some appetite to conclude some acquisitions. Therefore, they are ready to overpay the acquisition compared to its fair value, to be sure to get the target. These situations have to be clearly identified in the process of determination of fair value.

This theory has been developed by **Kim**, **Halebian**, **Finkelstein** (2011). They point out that firms can become "*desperate*[29]" to grow via acquisitions, which lead to overpayment in two specific cases:

- As organic growth becomes too low compared to peers or historical data, the management tries to gain some new growth thanks to acquisitions. In fact, these acquisitions can help the company to diversify geographically by entering a new country, by having a better vertical integration, or by gaining some market share with the elimination of a competitor (Horizontal acquisition).
  Kim, **Halebian**, **Finkelstein** (2011) concludes that the lower is the organic growth; the higher is the probability of overpayment for the acquisition.

We can give the example of the healthcare industry. According to **Higgins**, **Rodriguez** (2006), the companies that observe a decline of their patents that fall into the public domain and that will therefore see their revenues erode, or if their R&D department faces a lower productivity; these companies need to make acquisitions to be involved in the return of growth. This is the case of Sanofi which acquired Genzyme, a biotech company, in 2010 to offset the recent loss of patents in the public domain of its blockbusters that will be challenged by generics. This is the same explanation for the M&A acquisitions that occurred in 2008 with Roche and Genentech, and Eli Lilly and ImClone.

This can occur also for an industry reaching a mature level in developed countries and looking for new growth opportunities in developing countries: the telecom industry with Orange investing in the Maghreb (Meditel in Morocco in 2010) to offset the stagnant revenues in France.

In their research, **Kim**, **Halebian**, **Finkelstein** (2011) point out that if firms have already achieved a high level of organic growth, but still lower than the growth of their competitors, especially in the context of a merger waves, they will go for an acquisition and with a high probability overpay.

- The second case relates to companies used to acquiring new firms on a constant basis but unable to stop. So, the acquirer is able to slightly overpay the acquisition as it is vital to keep growing.
  Kim, **Halebian**, **Finkelstein** (2011) found that the more the firm has developed dependence to acquisitions, the higher is the probability of overpayment for the acquisition.

To illustrate the strong dependence to acquisitions, we can think of Axa. Axa from the beginning has constructed its group thanks to acquisitions: in France with UAP in 1996, in the UK with Sun Life & Provincial Holdings in 2000, Framlington in 2005, in Switzerland with

[29] **Kim** , **Halebian**, **Finkelstein** (2011)

Winterthur in 2006, in Mexico with ING Seguros in 2008, in Central Europ with Roumain Omniasig Life AXA in 2009, in HK with the P&C activities from HSBC in 2012. With all these acquisitions, Axa has developed a strong brand and an expertise on the post-integration processes. Axa successfully developed in the past internationally. It is still up-to-date as Axa wants to increase its implantation in high-growth markets, to counterbalance the gloomy perspectives in France and Western Europe, mature and very competitive markets. Axa will keep doing acquisitions, as the bulk of its revenues and its prospective revenues will come from these acquisitions. The dependence on acquisitions is crucial in the insurance sector as to sell some insurance contracts; you need to constitute a portfolio of clients that trust you. So the easiest way to gain some customers internationally is to go through external growth.

As described, growth is key for companies. Managers often have their compensation linked to firm size (**Tosi & co**, 2000). Making acquisitions is a straightforward solution. Firms are all the more enthusiastic to increase the price to benefit from this external growth.

This increase in price highlights that the bidder, though only focus on finding new growth, is very keen to carry out a transaction: as it has nothing to lose by taking these risky decisions, such as acquisitions, and because managers want to take up the situation (**Greve**, 2008). This can be a conflict-of-interest with shareholders as it is not in their interest to pay an acquisition with a high premium (**Pablo**, **Sitkin**, and **Jemison**, 1996).

Ismail (2011) also confirms that bidders are in the best position to overpay if "*they have low growth potential and if the target firm is large, [...], and greater growth potential indicating that those targets are good investment opportunities for the acquirers*"[30].

The willingness of corporate bidders to conclude the transaction in order to boost their growth increases significantly the transaction price.

- ❖ **The case of Private Equity funds**

The willingness of PE funds to make some good and profitable acquisitions on the long-run, to build a track record, push them to overbid as they claim that they are able to dramatically increase the value of a company. (**Hege** et **al**, 2012). In their research, they analyze that sellers will have a better offer when it comes to PE funds opposed to strategic buyers.

We can give the example of PagesJaunes sold in 2006 by France Telecom for a total equity value of 6.1bn€ to KKR and Goldman Sachs for 54%. At the time of the process, they were many other bidders involved such as the corporate Vivendi (SFR) or other PE funds with Axa PE, BC Partners, PAI Partners and Apax Partners. KKR was so willing to achieve the deal that the valuation was put at a very high level and the other bidders did not believe in such an amount.

[30] **Ismail** (2011)

In 2006, the PE acquisitions were booming as the cost of debt was low they took advantage of leverage effect to offer a price that a corporate could not afford. That's why Vivendi had to exit the process even if it showed a strong interest.

Moreover, as at that time, the PE funds had the ability to sell some of their participations at very high multiples, as a consequence, they were able to buy also with high multiples.

Since summer 2011, and with the implementation of Basel III regulation for banks, the banks are more reluctant to provide liquidity to LBO transactions. This implies that such acquisitions at a high price are scarcer as funds can hardly take advantage of the leverage effect.

The PE funds in the booming period of low credit have pushed the price of corporate transactions at a very high level, not correlated with their fair value.

2. Acquirer's experience of transaction process

❖ Managers' experience of acquisitions

As developed by Kim, Halebian, Finkelstein (2011), acquirer previous experience for doing acquisitions has no real ability to make the acquirer aware that he is overpaying. On the other hand, he can benefit from the advice of investment bankers, who have the ability to make the acquirer changes his mind about the level of the acquisition premium.

The insight gained by the management in terms of M&A practice does not turn out to help them to open their eyes to the fair value price.

❖ Directors involved in board meetings

As developed by **Haunschild** (1994), the role of "*director interlocks*[31]" of a potential acquirer involved in the board meeting of other companies is crucial because as board members, they are involved in the process of acquisitions of other companies, so that they can make their own idea of what the normative level of premium paid for such an acquisition is. Following this logic, if the acquiring company faces some uncertainties about the value of a target, it will refer to its board members which will have made up their mind about the subject. As a conclusion, "*Acquirers pay premiums similar to the premiums paid by their interlock partners*[32]". This does not mean that the premium they judge correct for the company is necessarily fair because they base their judgments on previous acquisitions of their companies or of companies that they follow.

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[31] **Haunschild** (1994)
[32] **Haunschild** (1994)

The management's experience does not give a critical point of view to converge towards the fair value price, whereas people sitting at the board and following the company have a view on the premium using data from their own experience, which does not make it fair necessarily but roughly in line with what is done with other transactions.

3. CEO's overconfidence and hubris

Here, we develop the concepts of overconfidence and hubris, which play a central role in management's behavior to push the price above a decent limit.

Roll (1986) realized that acquisition price on a selected sample of transactions was too high compared to the fair value acquisition price. The explanation relies on "*the hubris hypothesis*[33]" of managers, leading them to overbid. Managers care about value-optimization, but the consequence is overbidding because they consider they are able to over-manage the target company once acquired. This is an excess of ego, with the assumption that the acquisition is a very personal and excessive decision, leading to misevaluation.

Even if the responsibility of the manager is recognized in the overpayment, **Shleifer**, **Vishny** (1988) points out that contrary to **Roll** (1986), this overpayment pushed by the manager accounts for "*increasing the size of the firm, the opportunity to diversify, and for making himself less replaceable*[34]", which are more important for managers than the strict "*value-maximization*[35]" of the acquisition. Managers believe that the acquisition will be positive for the company itself and maybe for themselves but they are most driven by "*non-value considerations*[36]" leading them to overpay, and neglect the interest of shareholders.

Seyhun (2001) wonders if the management team overpays on purpose and consciously, but asserts that this conflict of interest with shareholders is not the first thing targeted by managers in their process of acquisitions.

This is also pointed out by **Hayward**, **Hambrick** (1997), which gives three reasons for overpayment of targets[37]: "*poor target management, synergy and hubris*[38]". Although the two first reasons are commonly known and have the focus of many researchers, hubris seems to have a strong power on overbidding over the other two reasons. The CEO plays a central role in the decision process on whether to invest large acquisitions as he bears the responsibility of the communication and the post-integration. It is sure that he is involved in the decision-making, with a varying implication of the Board. The conclusions of the report are the following:

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[33] **Roll** (1986)
[34] **Shleifer**, **Vishny** (1988)
[35] **Shleifer**, **Vishny** (1988)
[36] **Shleifer**, **Vishny** (1988)
[37] Developed previously by **Berkovitch**, **Elazar**, and **Narayanan** (1993)
[38] **Hayward**, **Hambrick** (1997)

- "The *better the recent performance of the acquiring firm, the more that is paid for acquisition*[39]": it points out that the CEO is more confident when he has already succeeded in achieving a good performance on his stock, as a consequence he believes he is the one able to act with positive returns on the target.
- "*The greater the recent media praise for the CEO, the larger premium paid for an acquisition*[40]": the premium is proportional to the level of confidence and media coverage of the CEO.
- "*A measure of a CEO's self-importance was positively associated with premiums*[41]"
- "*The hubris factor was highly associated with acquisition premiums*[42]": the hubris can be defined as the CEO overconfidence, the rising role of media.

JM Messier is a good example of this CEO with strong overconfidence, an increasing numbers of occurrences in the media, and the highly paid acquisitions he made during the 2000s with 100 bn€ of acquisitions in four years with Canal+ and Havas in 1998, Seagram (25.3bn€ overpaid: amount of the write-off in Vivendi's accounts), USA Networks.

Moreover, **Liu**, **Yue**, **Taffler** (2010) proved that the sentiment of overconfidence, and thus the overpayment, are even stronger when the overconfidence of the acquirer company is associated with the overconfidence of the target. The target manager has to make the acquirer believe that what he forecasts for the target for the next few years, and that serves as a basis for the price computation (as seen above with the Market or Income Approach) is feasible and realistic. On the other hand, the target overconfidence alone has no impact on higher premiums if the acquirer manager is not also himself convinced by the target management and does not express some overconfidence about the fairness of the premium paid for the acquisition. In figures, we have a "*2% to 4%*[43]" of higher premiums if only the acquirer CEO is overconfident, against "*7% and 9%*[44]" of higher premiums if both are overconfident compared to when only one or none of them are overconfident.

An overconfident CEO from the acquirer side is a necessary condition, but the effect is higher on the increase in the price paid in the bidding process if combined with the one of the target. This overpayment from the acquirer company is justified by an ability the acquirer claims to manage the target properly to generate higher returns for the target, in line with the price paid.

Overconfidence of acquirer CEO seems to play a major role for overpayment: psychology effects can have a say in the price-setting in a transaction and its relative overvaluation compared with fair value price.

[39] **Hayward**, **Hambrick** (1997)
[40] **Hayward**, **Hambrick** (1997)
[41] **Hayward**, **Hambrick** (1997)
[42] **Hayward**, **Hambrick** (1997)
[43] **Liu**, **Yue**, **Taffler** (2010)
[44] **Liu**, **Yue**, **Taffler** (2010)

4. The percentage of acquisition in the target already owned and to buy: the case of toeholds

❖ <u>If the acquirer is not already a shareholder of the target</u>

The **PwC study**[45] (July 2011) points out that the premium is proportional to the percentage of shares acquired.

❖ <u>If the acquirer is already a shareholder of the target</u>

A toehold is a percentage of shares already by a bidder in the target.

Betton, **Eckbo** (2000) claims that the higher is the toehold, the lower are the competition ("*rival bidder entry or target resistance*[46]") and the premiums. In the case, of several bidders entering the process, the rivals have approximately the same level of toehold. That's why sometimes bidders tend to acquire stocks in order to constitute a toehold and then make a tender offer. This is in line with former researchers. The issue with takeovers is the "*free-rider problem*" pointed out by **Grossman**, **Hart** (1980), which is an explanation why the market for corporate control works so poorly because small shareholders have an option to capture all the value added after a successful takeover, if they don't tender their shares. The consequence is that to be successful a tender offer should offer a premium at least equal to the value created by the bidder otherwise, this is a failure.

Bulow, **Huang**, **Klemperer** (1999) argues that in case of multiple rivals sharing the same toehold, bidders will become more aggressive which will push premiums up. Sometimes, it is worth giving your rival the opportunity to have the same toehold as you, as you will benefit from the higher competition, which in some cases can be higher than the advantage of a toehold.

This is why as defended by **Shleifer**, **Vishny** (1986), the toehold solves greatly the problem. The benefit of the toehold is that first you have already bought some shares at a better price that the ones during the tender offer. Second, you need to buy less shares at a premium and the higher is the toehold, the lower is the premium.

Burkart (1995) proved that already being a shareholder for a bidder firm pushes to offer a price higher than all the gains it have with this acquisition (costs and revenues synergies, …). This view is not new as we know that to be successful a bidder has to overbid, but the theories we have just developed above defended the use of a toeholds as a way to mitigate the premium.

Hence, having a toehold does not prevent you from overbidding, but it dramatically increases the conditions of your offer.

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[45] **Gintrac**, **Briclot**, **Charpentier** (2011)
[46] **Betton**, **Eckbo** (2000)

5. Acquirer financial structure and mean of payment for the acquisition

In terms of financial structure, a company that is cash positive has a competitive advantage to complete a transaction, compared to a company that has to negotiate its acquisition debt. The cash gives a high level of flexibility to the potential acquirer that is more nimble than one of its competitors in the bidding process. An indebted company faces more pressure on the business performance and on the ability not to overpay due to the debt increase, and can more easily refuse eventually to conclude the transaction. The fact is that a company that pays an acquisition in cash compared to debt is able to conclude the transaction quicker, and thus have a higher power of negotiation especially if the seller wants to sell quickly. That's why some companies of the same sector tend have the same financial structure as their competitors in order to have the same flexibility in case there is an opportunity of acquisition arising.

In theory, the divestiture does not follow immediately the investment, which let some time for the company to use its cash the best way possible. On the contrary, we can mention the case of Danone which sold its biscuits division in 2007 and bough right after Numico in Russia to reinforce its nutrition division.

Nevertheless, if a company has just sold some assets, and has some cash to immediately reinvest, there is a probability that they overpay if they do not have time to negotiate.

The mean of payment gives some information on the way the transaction price is valued. As demonstrated by **Myers**, **Majluf** (1984), a payment in cash indicates that the target is undervalued, and in stocks that it is overvalued. As a consequence, a payment in stock induces that there is overpayment. But, there is another important consideration that can reduce the overpayment. As for a stock exchange, you need to determine an exchange ratio, depending on the value you get from the acquirer; you are able to mitigate the overpayment, especially if the target is less overvalued than the acquirer.

The mean of payment reveals some good information about price fairness.

6. Synergies or the potential of value-creation of the target to the acquirer

Synergies are commonly used to explain the premium paid for an acquisition. For instance, transaction realized in the same sector gives an additional premium of 5% due to higher synergies expected in the same sector of activity, according to the **PwC study**[47] (July 2011). They are two ways to see the benefit of synergies in the case of an acquisition: either it is by combining two entities with revenues synergies by enlarging your services or upgrading them or cost synergies as a result of cost-savings; or it is due to poor management of the target's assets that you are able to change.

Davidson (1985) demonstrates that the price paid for an acquisition should be equal to:
$V_{equity}[\text{Combined entity}] - V_{equity}[\text{Bidder}] = V_{equity}[\text{Target}] + \text{Present Value of the Synergies}$

[47] **Gintrac**, **Briclot**, **Charpentier** (2011)

As a consequence, the level of the premium paid should be in line with the Present Value of the Synergies.

Slusky and **Caves** (1991) found that the premium is not really explained by "real synergies[48]", i.e. business similarities, even if "*financial synergies*[49]" may account more for the premium. The price is not necessarily correlated with the synergies but also on "*the acquiring management's willingness to pay for those cash-flows, the target management's tendency to lower the reservation price of the acquirer in order to presence its independence and the bargaining process between merger parties*[50]".

Moreover, **Ismail** (2011) notes that the more uncertainty there is with the synergies, the more probable it is that the acquisition will be paid in stock, and obviously overvalued. According to him, firms do not compute their purchase price thanks to the present value of the synergies.

Despite the strict notion of synergy, for a firm doing an acquisition in another industry, in order to diversify, is most of the times synonym of overpayment as it has less information on the way to value other sectors, on key insight on the sector. **Soegiharto** (2009) showed that the acquisition of a company in another sector translates into higher premium.

> **The synergies, although the obvious reason to explain the overpayment with acquisitions can be critical because of the difficulties to value them and to really implement them. Their valuation is not always consistent with our motivation to reach the fair value price.**

To conclude on the complex notion of price that we carefully analyzed thanks to the external and internal factors that influence it, we have put to light that there can be an excess or an undervaluation of this price depending on the very specific circumstances and motives for doing the acquisition. Therefore, the fair value price, even though it is a target that shareholders want to reach in order to preserve their interest, can be haltered due to external factors or internal ones, that are emphasized with the company management or the board uncertainty. Hence, in order to predict to the fair value price, do management and board members need a fairness opinion in order to support them in their valuation process? Is fairness opinion a way to mitigate the excess of the price offered?

[48] **Slusky**, **Caves** (1991)
[49] **Slusky**, **Caves** (1991)
[50] **Slusky** and **Caves** (1991)

SECTION 3 – HOW TO ASSESS THAT THE TRANSACTION PRICE IS FAIR? THE KEY ROLE OF FAIRNESS OPINIONS

So far, we have developed the specifities of price and value. Here, our ambition is to know if we have the ability to predict the fair value price. We will see if fairness opinions by asserting the fairness of such a transaction can comfort this view.

A/ The increasing role of fairness opinions in corporate control transactions

1. What are the main characteristics of a fairness opinion?

A fairness opinion is an independent analysis given by a financial advisor remunerated by a fee determined in advance. So, there is in general no success fee as for investment bankers for their advisory role in M&A. This changes the objectives of the analysis as there is no motivation for the advisor that the transaction should occur or not. The idea is that the advisor develops an analysis motivated by no special interests that could influence his view. It aligns both the interests of the shareholders and of the financial advisor. On the contrary, if the fees were tied to the success of the fees, shareholders are less confident of the unbiased opinion issued. The nature of these fees is an intrinsic component of fairness opinions, which do not elude the problem in itself of conflict of interest. To add a clarification, in Europe the fees are normally fees to remunerate a service, determined in advance, whereas in the US the situation should be more blurred as the fairness opinion can be paid depending of the success of the acquisition.

In fact, there are several actors in the fairness opinions industry, either investment bankers, or independent advisers. The investment bankers involved in this type of activities are sometimes not already advisers of the transaction, which is better in terms of conflict of interests than if they were already advisors. In terms of proportion, fairness opinions achieved by investment bankers are by far more numerous than those done by independent advisors.

The notion of conflict of interest is always more fierce when an investment banker is involved because we know that their business is really customer-focused so maybe they have a tendency to act in favor of their clients.

The idea is to use the expertise of a financial advisor in terms of financial engineering in order to implement the appropriate valuation methods, and in terms of sector to pick up the right hypothesis for the growth rate, level of margins, discount rate. Valuation services require some experience and knowledge.

Then, the advisor gives an opinion on the price to be paid taking into account the structure of the transaction, focusing on the financial terms. It is an opinion based on the level of fairness. So, he can be able to tell that the fair value price is in the fair range concerning the valuation, but in no way his role is to give the maximum price the shareholders can get on this

acquisition. The low and the high range for the price proposed in the valuation are very volatile if we take into accounts all the factors that affect the value to get to the price.

A fairness opinion is at the end aimed at protecting the shareholders, but is mostly used by the boards or management. This is very useful when the company to value is private or that few transactions occurred in this sector of activities which makes the market approach less relevant.

The financial advisor can be legally liable if has given an opinion which is on purpose incorrect.

The notion of reputation of these financial advisors is key for **Makhija**, **Narayanan** (2007), as for them the risk associated with the issuance of a fairness opinion that could be bias or incorrect has an even stronger impact if the advisor is associated with a high reputation. The consequence is the alignment of interest between the company asking for a fairness opinion and the financial advisor that is issuing it: the risk taken by the advisor should not be too large so that it could not endanger its reputation. The opinion it renders with its fairness opinion should thus be free of bias and of personal interest. On the other side, the more the financial advisor is reputable, the better shareholders believe in the fairness opinion and will refer to it.

A fairness opinion is a difficult exercise by nature which aims at being objective but which is intrinsically subjective due to the choice of the valuation methodology and of the assumptions made. The difficulty also arises because we try to value a company in a context of a transaction which induces determining a price. As seen in the previous section, a price incorporates a lot of other factors that influence the stand-alone value.

2. Origin of the fairness opinions

There is a famous triggering event that pushed at the first plan the fairness opinions. This is a decision from the Delaware Supreme Court in 1985 saying that Trans Union Corporation's board members were "*grossly negligent*[51]". In this *Smith v. Van Gorkom* case, the point is not that the Corporation sold its business to the Prtitzker family at an unfair and too low price; on the contrary it corresponded for shareholders to a premium of circa 40%. What was at stake is that the board sold its business at a price, for which they could not assess if it was linked to its fair value or not. As a consequence, there was no documentation on the valuation process and especially if the premium was in line with what is paid for a comparable transaction. There is a lack of informed decisions, which in the future would require the support of financial advisors through a fairness opinion.

The fairness opinions have been plebiscited since the decade 1990s due to a higher responsibility that boards have to endorse in front of shareholders.

[51] From the decision rendered by the Supreme Court

Bowers (2002) agrees that the decision from the Supreme Court has triggered demand for this type of opinions, even though if we look at the market before and after the decision has not evolved so much in percentage terms.

The regulation on fairness opinions is still weak. In 2007, FINRA[52] Rule 150 came to light with the objective to impose new constraints on fairness opinions to tackle the conflict of interest issue. It had only a limited impact in resolving this problem.

There is a need for fairness opinions that have been extensively used since the mid 1990s, but to face some limits inherent to its structure, there should have a more developed regulation.

3. Context and types of acquisitions favorable to the use of fairness opinions

Fairness opinions have an increased role in the context of mergers and acquisitions as the transactions have become more complex, market capitalizations have reached higher level, which implies more issues at stake, and the risk of public M&A operations either friendly or hostile have become more fierce.

Kisgen, **Qian**, **Song** (2009) have studied in details which companies and situations trigger in most cases the issuance a fairness opinion. There is at least one fairness opinion on the target side and in 2/3 of the cases from the acquirer side. The higher the size of the deal is large, the more there is at stake, so the more there are fairness opinions. In the same way, a deal with a payment in shares will generate more often a fairness opinion as it will require on top of that valuing both parties.

Moreover, fairness opinions are more frequent on friendly merger processes than hostile ones.

Bowers, **Latham** (2006) found that the larger is the acquirer or the target, the lower there is a chance that they will use a fairness opinion as they consider that they have experienced people able to face this acquisition process without a third party: they estimate they are in a dominant position. Moreover, the bigger is the target, the more it is probable that the potential acquirer will ask for a fairness opinion, as there is just more at stake, so it needs to be more cautious.

The more the structure is complex in terms of size, payment in shares, the more the responsibility of the boards will be high as it bears its responsibility in the deal screening and decision making.

B/ The use of fairness opinions: circumstances, impact on the price paid

1. Motives to use a fairness opinion

[52] Financial Industry Regulatory Authority

In order to know if fairness opinions are really helpful to assess that the transaction price corresponds to a fair value price, we should understand which the main motives are for having a fairness opinion. Is it the certification that a fairness opinion provides or on the contrary the possibility to get a legal cover which prevails over the other one?

- **Confidence on the price paid**

The first role of a fairness opinion is a judgment on the price to know if it is fair. So, there is a need for a certifying document that helps both parties of the transaction to overcome the "*information asymmetry*[53]" on the way such a sector is structured, or on the specific company to acquire.

"*The transaction improvement hypothesis*[54]"is evoked by **Kisgen**, **Qian**, **Song** (2009), who test in which situation it can happen.

Marshall (2007) after having interviewing CFOs analyzes that 73% of companies think that it is a good solution to use a fairness opinion. The main motivation for them is not to at first sight to have an accurate view on the price and the structure of the transaction, but rather to be protected from a legal standpoint of further law pursuits from shareholders showing that they have acted properly by hiring an independent advisor that could give his opinion on the transaction.

- **The legal motivation**

It is a main point to be taken into account, but it cannot explain by itself the whole motivation to buy a fairness opinion (**Ohta**, **Yee** 2008). As the board bears some responsibility towards shareholders that the transaction has been documented and that the process of decision making ensured that everything was checked, the fairness opinions have their whole place. What boards fear is consequent law suits from shareholders contesting the acquisition because they estimate that they have been robbed.

The legal cover can be reinforced by a rise of hostile takeovers in 1980s that afraid the minority shareholders, who wanted to be protected. Nevertheless, it has been noticed that most of the fairness opinions concerned friendly takeovers, which are by nature more easy to certify.

Kisgen, **Qian**, **Song** (2009) argues that boards are looking for a "*legal protection*[55]".

However, as demonstrated by **Bowers**, **Latham** (2006), the "*litigation risk*" can be specific depending on the level of this legal risk in the overall economy (In the US, there was a consensus after the Supreme Court decision in 1985 that fairness opinions were useful tools at the disposition of board to secure a transaction, and to reduce this risk); in a specific sector

[53] **Bowers**, **Latham** (2006)
[54] **Kisgen**, **Qian**, **Song** (2009)
[55] **Kisgen**, **Qian**, **Song** (2009)

especially in highly regulated sectors that can be more vulnerable to further law pursuits; or relating to a firm itself that has its own history in terms of legal matters and trust with shareholders.

But, **Makhija**, **Narayanan** (2007) have a more subtle view as they show that potential acquirers or seller in appearance demonstrate that the fairness opinion will help them having a right view on the valuation price, on the contrary they more often use them for a legal issue to be protected.

Acquiring companies that think that a legal issue can happen, especially with shareholders that are not completely satisfied with the terms of the offer, are keen to use a fairness opinion, as proved by **Chen**, **Sami** (2006).

- **… which can be strengthened by the structure and the uncertainty of the board members**

The way the board of directors is structured and composed has a real impact on the use of Fairness Opinion. There can even have some contradictory point on the correlation between the two.

First, the idea is that the combination of a board of a small size and a proportion of outside board members higher than insiders fuels the need for a fairness opinion, as supported by **Kisgen**, **Qian**, **Song** (2009). In their view, a better corporate governance as illustrated above paves the way for a higher use of fairness opinions, motivated among other reasons by the fact to be legally protected in order to hedge this risk.

On the contrary, **Bowers**, **Latham** (2006) think that the better the corporate governance is within the board, the less they care about the legal risk, and thus the lower is the demand for fairness opinions.

Eventually, another view was developed on the subject, with **Frye**, **Wang** (2010). There are several factors in the structure of the board affecting the demand for a fairness opinion. The underlying idea is that if the board has sufficient knowledge on the deal, a fairness opinion is not useful in this case.

- As already developed above, a board with a higher proportion of outside members has the advantage to be strong in order to control risk (**Jonh** & **Senbet** 1998), but can be really be dependent on fairness opinion as they are not necessarily specialist on the acquiring company insights, on the sector, and on the value-creation of the potential target to the acquirer. So, the fairness opinion will help them both having a better insight of what is at stake for the transaction, and also reducing the legal risk. Therefore, the cost of the fairness opinion is tantamount to the cost of having an independent and unbiased board, doing properly his job. Independent board members with their external position can bring a lot on strategic issues.

- Boards with a larger size induces higher knowledge if we sum the knowledge of each of them, but it is proved that as boards are getting larger, the communication and the transfer of information between them reduce. Thus, there will make a higher use of fairness opinions.
- Boards with higher years of experience will use more fairness opinions, as they are less pushed to challenge the company management;
- The last point developed in the study is about the number of other mandates in other boards the board members have. The more other mandates they have, the more they are exposed to discussions on strategic plan, acquisitions, so they are able to bring a real value in the board meeting. So, they are less keen to ask for fairness opinions.

So, the point of view expressed here shows clearly that a better governance will make a higher use of fairness opinions in order to reduce legal risk.

Logically, the higher is the uncertainty the board or management team have on the deal, the more they will use a fairness opinion. Hence, the market can induce that if a fairness opinion is used, this is partly due to uncertainty on the deal from the board members that consider that they do not have enough information to take the right decision.

The quality of the board has a real influence as viewed by **Kisgen**, **Qian**, **Song** (2009), which explains that a board of high quality will have a tendency to hire a financial advisor of high quality to make the transaction credible, whereas a low quality board will prefer a low quality financial advisor that will pay less attention to details and agree with the fairness of the transaction. In fact, this is linked to the quality of the board, but mainly also to the quality of the transaction. That's why a fairness opinion issued by a reputable advisor from the market will definitely sends a positive signal from the quality of the transaction.

The two main objectives to use a fairness opinion are to overcome the uncertainty on the price, and to be legally protected as a board and this can be reinforced according to the board structure and its level of uncertainty. Anyway, both of these reasons are motivated to be sure that the transaction that is going to take place will be consistent with the fair value price and that on one hand, the board will have reduced uncertainty, and on the other hand, will be hedged against a request from a shareholder contesting the notion of fair value.

2. Impact on the price paid

This is all the more interesting to measure the impact a fairness opinion has on the price of the transaction compared to comparable transaction. Is there an instrumentalization of fairness opinions to reduce the price of the transaction?

There are mainly two views on the impact of a fairness opinion on the price to be eventually paid. Either an improvement is shown which materializes in lower premiums, or there is no significant element to highlight in terms of variation.

Kisgen, **Qian**, **Song** (2009) develops the idea of "*the transaction improvement hypothesis*[56]". This implies that premiums are on average lower in case of the use of a fairness opinion from the acquirer side at the only condition that it has been done by a reputable advisor. However, there is no impact in the case a reputable advisor intervenes for a target fairness opinion. This enables to put forward the ambivalent bias the financial advisors can have in favor of target and in the detriment of acquirers in some situation.

Makhija, **Narayanan** (2007) in an experiment on 1927 deals between 1980 and 2004 found that premiums were lower in the case where the deal had been associated with the issuance of a fairness opinion, rather than deal with no fairness opinion. But, they question their results by saying that they cannot compare these following premiums with a normative premium and that the fact that the investment bank could be the same provider of advisory and fairness opinion.

Even if an improvement in the price paid can be observed, it applies to some very specific situations and it is sometimes difficult to know if some other factors have not interacted.

3. Do fairness opinions really help shareholders in the value-extraction process?

Fairness opinions have the ambition to help and protect shareholders against the probable misevaluations of their shares in a transaction. Nevertheless, their positive contribution is not unanimous and they have to overcome the conflict of interest issue.

❖ The question of the conflict of interest of investment banks

It is true that investment banks, as they are not independent, can be tempted to give a bias opinion, but we will show that they have also some competitive advantages that can help them overcome the damages the conflict of interest can create.

We focus on the particular case when investment bankers are involved. Compared to an independent financial advisor, they can clearly have a competitive advantage as they are used to putting in practice all the valuation methodology, have developed strong expertise of sectors and also can have a detailed view of the company they are working for especially if it is a long-time customer with whom they have developed close ties. But, it is here that the question of conflict of interest takes more importance.

Maybe this investment bank has not earned the mandate for this deal and wants to enrich its league table by doing the fairness opinion. So, the motivations for the bank are to gain a credential, to get some fee, but also to maintain a good relationship with his client in order to get other M&A mandates more rewarding, which can lead the bank to give a fair opinion on the deal to suit the client, whereas the deal is not really fair.

[56] **Kisgen**, **Qian**, **Song** (2009)

The paradox of which type of advisors to select is highlighted by **Kisgen**, **Qian**, **Song** (2009): it is true that an independent advisor will have no other choice than giving a fair view on the deal, but we should not neglect the expertise investment banks have. For instance, if they have acquired a good knowledge on the company to value, it represents a real advantage as the analysis will be better documented and as already seen the level of reputation of this financial advisor perceived by the market, will help itself monitor the risk taken which will overcome the conflict of interest that could have arisen. **Cain**, **Denis** (2010) also goes in the sense of the last remark saying that beyond the conflict of interest that is inherent to the nature of the relationship, a valuation with a better precision given by an advisor that has had a long-term relationship with the company is an advantage that overcomes some other bias by no common measure.

Cain, Denis (2010) also notes that the type of advisors investment bankers or independent could not be distinguished in terms of valuation capability. The fees can be either contingent or not, it makes no difference to him. **Bebchuk**, **Kahan** (1989) consider that these two types of fees contribute to making investment banks aligned with the interests of the board of directors or management and to go in their view.

Nevertheless, **Kisgen**, **Qian**, **Song** (2009) proved that premiums were on average higher for a fairness opinion mandated by an acquirer with an investment banking by comparison with independent financial advisors.

The management may also push for the deal to be closed as soon as possible, and can influence the financial advisor that they have hired to publish a fair opinion. Another bias is the negotiation from the target management of a secured position in the new organization chart against a lower price materialized by a discount in the premiums. This is the case of Bank One acting as the target for a merger planned with JP Morgan in 2004.

❖ **Positive and negative views on the fairness opinions**

Two conflicting points of view that both illustrate the specificities of the fairness opinions and what can be improved with them.

The positive arguments put forward the ability a fairness opinion has in terms of value-creation for the deal and to fulfill its main objectives for the shareholders: reduction of the asymmetry of information by issuing a detailed note on which specialists worked, and of the legal responsibility of the board. **Cain**, **Denis** (2010) claims that the information contained in a fairness opinion is key for the main counterparts in the transaction. **Cleveland** (2006) defends that investment bankers involved in fairness opinions succeeds in extracting some information that adds value to the transaction.

What we can deduce from the lecture of fairness opinions is that no fairness opinions declare that the acquisition is unfair. The main explanation is that investment bank may make their price converge towards a fair price; otherwise it will not appear credible. The reason is that a fairness opinion arguing that the conditions of the transaction are unfair should be a terrible

negative signal, which happens very scarcely, as it relates to a dramatic situation. On the other way, a French independent advisor, Detroyat published once a fairness opinion that considered that it was unfair, but this exercise was done on purpose. Normally, a fairness opinion as it is an independent review of the valuation process should not turn out to be positive at all times.

Kisgen, **Qian**, **Song** (2009) developed a special interest in understanding the impact on the deal completion. This key performance indicator is a measure of how useful a fairness opinion is in the decision process. The conclusion is that for a target, the reputation of the financial advisor and the certification thanks to a fairness opinion increase the deal completion, whereas these two factors have no impact for the acquirer. These mixed results question the ability fairness opinions to assessing that the deal is worth or not given its characteristics.

Makhija, **Narayanan** (2007) concludes their study by saying that "*fairness opinions do not credibly certify deals*[57]". They found in their sample that the deal on which one party asked for a fairness opinion were originally deals with lower premiums, so a fairness opinion in itself does not really add value. They also demonstrated that "*shareholders on both sides of the deal rationally discount deals certified by advisor fairness opinions*[58]". It points out that conflict of interest is inherent in fairness opinions and shareholders are aware of this and take that this into account by trying not to rely completely on these analyses.

Kisgen, **Qian**, **Song** (2009) agree with the **Makhija**, **Narayanan** (2007) by defending that fairness opinions play a critical and not very constructive role in the process of deal certification especially on the value side.

To illustrate the controversial aspect of fairness opinions, let's evoke the case of Lazard, hired for the fairness opinion of a transaction for which Bear Stearns was advisor and the bidder was JP Morgan. On March 16, 2008, Lazard declared that the transaction of $2 per share was fair. But, one week later, Bear Stearns adjusted its price to $10, ie five times higher, and Lazard still agreed on the fairness of the transaction. Surprising to see the price change as much within an interval of one week? This is the paradox of fairness opinions!

The legal cover, if it is the main purpose required by the board, can however be questioned if the investment bankers are happy to go in the sense they think that the client would them to go in order to maintain a good relationship. The consequence is that it is not in the interest of the client that wants to have a true knowledge on the value.

Fairness opinions' contribution to value-creation analysis is logically put under fire. I am more intent to rely on reputable advisors that really put their reputation at stake for the purpose of the exercise, and have some strong expertise to give to the client. We have to remember that a valuation is a tricky exercise as banks on sell-side and buy side do not really make ends meet.

[57] **Makhija**, **Narayanan** (2007)
[58] **Makhija**, **Narayanan** (2007)

4. Actions to reduce the bias of fairness opinions

Fairness opinions are important in the M&A process with their informative and protective roles.

In order to mitigate all the critics fairness opinions are facing, is the good idea is to employ several advisors to produce their own fairness opinion? The point is at least to differentiate the investment banking advisor and the producer of the fairness opinion, even though it is not the common practice developed in the market.

To ensure that the fairness comply with the rules in terms of accuracy, independence and relevance, we should not neglect the role of the board that should challenge the advisor in charge of the fairness opinion to get a value added analysis. The board has to be sure he has hired the financial advisor that fits with the situation: a top-tier advisor or on the contrary more an expert on his sector if the transaction's issue needs the intervention of a specialist rather than a name signing the fairness opinion.

Heminway (2011) agrees that the way fairness opinions are made should evolve to in terms of "*contents, construction, and use*[59]" to reduce the biases we have mentioned so far.

Constraints imposed to the advisor in charge of the fairness opinion are crucial to improve the quality of what has become a useful tool for shareholders seeking to make sure that an investment or a disinvestment is worth in terms of value-creation.

C/ Impairment tests of the goodwill: the transaction price thought to be determined at fair value was too optimistic?

Here, we are putting forward that a fairness opinion can leads to a fair judgment on the acquisition. However, some external conditions seen in Section II. A. with especially the market economic conditions can affect the sustainability of the fairness aspect of this transaction a few years later.

The overpayment is sanctioned by impairment charges when it is not related to real expected gain paid to the target. But as we will see, the notions of fair value, and also of overpayment are very sensitive to the economic cycle. It means that a transaction which was supposed to be fair, in reality a few years later, some events like the deterioration of the economic situation, the entrance of a competitor or the earlier than expected obsolesce of assets can lead to a depreciation of the associated goodwill, as not as much value is created from the latter acquisition.

The accounting regulation IAS 36 stipulates that the goodwill has to be tested once a year. In the case where the higher value obtained between a market value (Transactions or Traded

[59] **Heminway** (2011)

Peers Multiples) and a fair value approach (Mostly DCF) is lower than the carrying value registered in the accounts, then there is an impairment charge.

Just to remind, the goodwill has been determined thanks to the IFRS 3R (2010) which consists in valuing at fair value both assets and liabilities of the company, and the goodwill is the difference between the price paid (on an EV basis) and the assets and liabilities revalued at fair value, and sometimes the recognition of new intangible assets (brand, patent, …).

So, in the case of a transaction, it is important to anticipate if this acquisition has a probability to bear impairment charges and to do some sensibilities on growth rates, margins. In fact, investors have really to pay attention to the testing of goodwill as it can have a non negligible impact on the overpayment. For instance, the depreciation of the goodwill one or two years after the year acquisition is a clear signal of overpayment.

So, **Quiry**, **Le Fur** (2012) shows that the goodwill accounts for approximately 18% of total assets for CAC 40 companies in France.

Although some depreciations were made for CAC 40 companies mainly in 2009 as a consequence of the crisis of 2008, for 8.5bn€, this amount was reduced in 2010 and accounted for 7.7bn€[60]. Nevertheless, the depreciations that occurred in 2009 were calculated mostly thanks to a business plan as a basis for the calculation of the fair value: this business plan was often pessimistic for the short-term, but used less pessimistic hypothesis for the long-term which avoided for the companies to depreciate too much. They considered that short-term value was affected, but that a recovery in the long-run is still possible.

But, the worst for a company is to depreciate goodwill right after a transaction. We can illustrate this point with Vivendi with its overpaid acquisitions during the Internet Bubble in the 2000s. The group was forced in 2002 to continue to depreciate massively its assets for an overall amount of "*18.4bn€, which can be split between 6.5bn€ for Vivendi Universal Entertainment, 5.4bn€ for Canal +, 5.3bn€ for Universal Music Group, and 1.2bn€ for other assets*"[61]. The underlying reasons were mainly the overpayment during the Internet Bubble, and consequently the deterioration of the economic environment.

However, according to **Quiry, Le Fur** (2012), nowadays in 2012, following the deterioration of margins in both mature and developing countries and the increase of the WACC (both the cost of debt, and the cost of capital with the increases risk-free rates and equity risk premiums), it is important that companies should depreciate their goodwill. This is all the more the case as "*53% of CAC 40 companies have a ROCE after tax lower than their WACC*[62]". From a theoretical stand-point, the goodwill is the ability the company has to create value and to generate a return higher than the WACC. If it is not the case, the goodwill has no sense anymore and should be depreciated.

[60] **Gintrac**, **Morvan**, **Schere** (2011)

[61] Analysis Consolidated Results Vivendi 2002

[62] **Quiry, Le Fur** (2012)

The depreciation of goodwill is a key indicator of how much the company overpaid the acquisition, as some value anticipated at the time of the closing did not materialize. This can happen very quickly if the overpayment is obvious and has dramatic consequences on the management ability to value the acquisition (as the higher price was not offset by higher value created thanks to a competitive advantage acquired). But, companies can impair their goodwill several years later as a consequence of the change of the economic or innovation cycle, or the competitive environment which made unsustainable the original ambition for the forecasts and strategic plan elaborated.

D/ Are fairness opinions fair?

The objective of this paragraph is to analyze through main examples in recent M&A transactions the level of the fairness at the time of the transaction and a few years later.

- **Example of an acquisition where the fairness character of the deal is recognized even after the transaction.**

Hence, one of the indicators to judge that the fairness of the transaction is maintained over time is at least if the company is not depreciating its goodwill related to the acquisition as mentioned above (Section III.C).

Let's focus on the acquisition of Rhodia by Solvay in August 2011 for €31.6 per share, and €52.3 per OCEANE in a context of a friendly takeover. This represents a 44% of premium compared to the average last three months of Rhodia's share price. This acquisition was approved by the AMF and a fairness opinion was issued by Accuracy, approving the fairness of the deal. This acquisition was self-financed by Solvay and €250m of synergies were predicted. The newly created group seems coherent and reinforced on the expertise side and on the geographical presence with increased positions in Europe, as well as in Asia and in Emerging Markets. The group has become an uncontested leader in its market. The portfolio of the whole group is currently more balanced and better hedged against the variation of the economic environment. We can say even if we do not have a lot of time to stand back regarding what has happened since the takeover, but undoubtedly the complementarities between the business lines, coupled with common values based on excellence, responsibility and innovation will drive a rather positive and fair acquisition on the long-run.

- **Example of acquisition where the fairness character of the deal is questioned at the time of the acquisition but after the fairness is strongly recognized**

If we consider the acquisition of GVT by Vivendi in 2009, the total acquisition price is BLR 7.3bn. It represents 9.2x 2010 EBITDA Multiple, which is 1/3 higher than the average EV/EBITDA 6.9x for the last two years transaction multiples in the same sector.

This case is particularly interesting as there were a lot of twists from the financial community that radically evolved about the fairness of the deal. At the beginning, financial analysts were very skeptical about this deal and thought that is was overpaid. At the end, the high growth of GVT (circa 20-30% per year) and its good operating performance made them change their mind. Up to date, GVT is one the business unit with the best performance and the potentially overpaid amount has already been offset by its outstanding performance.

Moreover, the facts we are presenting completely illustrate and fit the main theories we have developed. After a long battle, Vivendi succeeded in acquiring GVT at a certain price, with a high premium, but it gained access to a fast-growing operator in an emerging market area, in which Vivendi was not present. New growth opportunity was an important motive for Vivendi to do this acquisition and to pay a premium if needed as it was a really strategic acquisition. Beyond the market entry Vivendi is performing in Latin America, there was a need for new growth as Vivendi's revenues are overexposed to developed markets with 85% of its revenues.

Once more, we can highlight that the synergies were not the real motives of the acquisition as the operational synergies are very limited as Vivendi is not present in the region; there are only some financial synergies.

In terms of competition, it is clear that it has contributed to the increase in price. First, Vivendi offered 42BRL/share on 8/09/2009. Then, Telefonica made a couter-offer of 48BRL on 7/10/2009. On 4/11/2009, Telefonica increased its offer to 50.5BRL/share. Eventually, Vivendi made an offer at 56BRL/share, which means a 33% increase compared to the first offer.

What was in favor of Vivendi, was the intervention of Anatel, the Brazilian Regulatory Agency, that put some restrictions on Telefonica arguing that it would not be possible to implement some synergies with its other business units and was forced to keep the name GVT, which were clearly in favor of Vivendi, due to anti-trust measures. Moreover, from the beginning Vivendi got the support from the management team and the initial shareholders.

- ❖ **Examples of acquisitions where the fairness character of the deal is not recognized after the transaction.**

Here, we will mention once more a major acquisition of Vivendi in 2011: it concerned the 44% of SFR bought from Vodafone for 7.95bn€. This was a strategic acquisition in order to get the whole control of the company, as Vivendi already hold the bulk of the shares, in order to take strategic decisions, to control the cash-flows and to achieve a good investment financed with some debt in order to benefit from the leverage effect.

But, Vivendi did not realize that the entrance of Free in the mobile market, already programmed at the time of the transaction, was going to shock the whole industry by introducing a high pressure on the price of phone communications that plummeted. Hence, analysts one year later sanctioned Vivendi's share price, because they consider that Vivendi

overpaid its acquisition as they did not anticipate that this change of competition landscape will dramatically affect their customer base and their margins: SFR has already lost 1% of its clients; its EBITDA should fall from 15% to 12% in 2012. SFR is also expected to recover growth not before 2014. The situation is quite gloomy and SFR is planning a social plan to reduce its costs. Therefore, the fairness of this acquisition is not really applicable up to date, which contrast with the obsession of Vivendi to pay the fair price at the time of the transaction and tried to communicate clearly on this point to the financial community.

The second example we are putting forward is the acquisition of Orascom by Lafarge in 2007 for a value of 8.8bn€, and a total enterprise value of 10.2bn€. Lafarge paid Orascom for a multiple of 11.6x EBITDA, which was pretty in line with comparable transactions that occurred during this period (Average EBITDA Multiple for transaction peers: 11.5x). For Lafarge, the rationale of this transaction is to focus on emerging countries, to take advantage of its workforce and consumption base and to benefit from cost synergies. Even if Lafarge paid a fair price for the period, which was very bullish for the building materials sector correlated with good macroeconomic situation, it was at the top of the range and the counterparty was again some new growth and synergies. It is true that this acquisition was one of the latest in the merger wave in the building material sector, which was still fair but paid at the high level of the range. However, as it is a very cyclical industry, also very capitalistic and for which demand is closely dependent from the quality of the economic situation, the situation has deteriorated very quickly not only for Orascom, but also for Lafarge. For Orascom, the growth prospects and performance were in the red due to the global crisis that affected the construction business: the effect is all the stronger as the high fixed costs are very sensitive to a slight decrease in the revenues. For Lafarge, this implied a breach of covenants. Since the beginning of the transaction Lafarge struggled to refinance itself as it took some short-term financing, hoping that when banks were resuming granting credit loans, it could benefit from it. But, Lafarge was in a negative spiral because of high interest rates, a liquidity issue and some distrust from banks expressed on the ability Lafarge had to respect its financial commitments. The conclusion is that even the Lafarge-Orascom transaction was considered as fair at the time of the transaction, the change in the economic cycle and in the merger wave strongly impacted the Lafarge Group facing on top of that a liquidity issue that strongly questioned the fairness of the transaction a few years later.

Our third example, is about Credit Agricole investing in Greece in Emporiki, fifth bank in the country, for 2.2bn€ for 72% of the capital paid to the Greek State in 2006. One of the motivations was again to gain some growth thanks to the implementation in an emerging country with a strong currency, the €, in order to improve the management of Emporiki and to make it a reference actor in the funding and development of Greece. To summarize, this acquisition was a strategic option to diversify its regional exposition. But, CASA management did not realize that the cost of risk increased dramatically with an increase of the loans granted. In 2008, Emporiki has a net loss, and CASA was forced to recapitalize it and to pass impairment charges in its consolidated accounts. This is definitely a bad signal to impair just two years after the acquisition. The group led a restructuration plan, but the deterioration of the situation in Greece cannot improve the situation and support the positive aspect of the

reorganization. Since then, the revenues rather have been stagnant and the cost of risk has increased massively. The current risk is the risk of default of Greece and its exit from the Eurozone. This acquisition turned out to be a disaster for CASA, for which the cost amounts to 5bn€ and CASA has not benefited at all from gains that were expected at the beginning. This acquisition is a complete trap, that turns out to be completely an unfair one, which highlights how difficult it can be for banks to grow as there is some risks to contain. It is true that the gloomy situation in Greece has worsened the situation, as Emporiki hold some bonds from the state, and had to accept a discount on them. Nevertheless, in its management, Emporiki took some huge risks as it was the only bank which continued to grant some loans in an extensive, whereas everybody knows that a deterioration of the economy in Greece reduces the solvability of households.

The notion of fairness opinion can vary over time. This happens as the acquisition is not as strategic as already thought for the acquirer, or because changes in the economic environment (growth, competition, structure of the market) do not enable the target to achieve the performance initially set.

A fairness opinion has a pivotal role in the valuation process in order to assess if the terms and price offered are fair, which implies that a fair value price has been correctly predicted. But, we have found that motivations for such a fairness opinion were more pushed by the legal cover than by the ability to get closer to the fair value price by reducing the uncertainty thanks to the expertise of external financial advisors.

CONCLUSION

We have determined the fair value, this objective notion that has to make a consensus. We challenged this notion to see if it is compatible with the price. The idea is to measure if the price is sensitive to external and internal factors, so that the price diverges too much from what we have called the fair value price. We notice that some factors can impact more heavily the price than others and we have to be careful to them if we want to avoid overpaying. But, the competition and the position on which we are sitting in the merger waves most of the times push prices up, but this seems difficult to fight against this as due to the scarcity effect, prices are increasing. However, in order to validate the hypothesis that a fair value price is possible to predict, we have had a special attention on fairness opinions. What we have learnt, is that beyond their inherent conflict of interest that can be offset by the reputation investments banks engage when they are involved in such certifications; fairness opinions surprisingly certify as fair almost all the deals they are asked for. So, this would mean that all the deals are fair valued, so that we are able in corporate finance to predict a fair value price. This needs some clarification. If unfair fairness opinions are scarce, this is because it would refer to a transaction that is completely unfeasible, not only because of the too high price granted, but also because the quality of the assets will not support such overpayment, or that the transaction will a be a clear failure. Hence, this has comforted our view that in corporate finance, we are able to predict the fair value price. To nuance this view, we have tried to analyze the notion of fair value price on a longer period, a few years going after the acquisition. The fair value price is consistent over time if a few years after, we are confident that we are able to create the same amount of value as predicted. But, we have noticed that some post-deals conditions like a prosperous economic environment or a favorable competition scheme can really enhance the credibility of a deal as well as its fairness. What is worst for a company, is the deterioration of the economic situation and the arrival of a very aggressive competition that may question its position, the spirit of the acquisition and thus the fairness of the transaction.

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