Evaluation of Growing Business: Which Method, What Risks?

Jean-Sebastien Lantz[a], Lubica Hikkerova[b], Mehdi Mili[c], Jean-Michel Sahut[d]

[a] *Associate professor, CEROG-CERGAM, IAE Aix en Provence, France*
jean-sebastien.lantz@iae-aix.com
[b] *Assistant Professor, IPAG Business School, Paris, France*
lubicahikkerova@yahoo.de
[c] *Associate Professor, University of Sfax, Tunisia*
and CEREGE EA 1722– University of Poitiers, France
Mehdi.Mili@isgs.rnu.tn
[d] *Professor, Geneva School of Business Administration - University of Applied Sciences*
Western Switzerland and CEREGE EA 1722 - University of Poitiers, France
jmsahut@gmail.com

ABSTRACT

Evaluate a growing company is always a difficult exercise because the valuation depends on the appreciation of many factors that vary depending on the person performing the evaluation: manager, shareholder, venture capitalist, etc. This article aims to present the methods used to evaluate this type of firm, their implementation and in particular the parameters to be considered in the assessment (cash flows and the discount rate) and the most common mistakes. This often results in an initial undervaluation as the entrepreneurs of the most promising projects find themselves unmotivated.

I.   INTRODUCTION

Profitability and risk perspectives incurred by entrepreneurs and their financial partners, institutional, industrial and commercial pose the financial valuation of the firm in strategic decision-making. Since investing in a growing business requires strong convictions about appreciation of its business and financial value of its assets. Forging his judgment is an art, as the financial projections are difficult to define and the assessment instruments are complex. If these instruments can achieve similar results or to explain the differences when they are mastered, they are most often the source of interpretations because the valuation defines the potential wealth of shareholders, namely their immediate dilution in the case of a capital increase. On the one side, we have a management team that seeks to minimize the dilution in order to maintain control or a blocking minority of the company, while attempting to maximize the value of newly issued shares. On the other hand, we find investors whose objective is to minimize the financial valuation of the company in hopes to hold the largest possible share capital at the lowest cost without demotivating the management team as if a strategic asset.

What value to give to the company? What are the criteria and constraints that come into play? It is these questions that we try to answer by presenting the different valuation methods for unlisted firms and their risks.

II.   THE DIVIDEND DISCOUNT MODELS AND CASH FLOW

It is difficult to estimate the value of a project to the extent that the estimation depends on the market and that it is specific to each person. However, in an environment that puts investors in competition, pricing models based on discounted dividends or discounted cash flows provide a first methodology which must cross with the multiples method. These two types of update is based on a simple principle through which a project (respectively a firm) is worth only what it earns, that is to say, its cash flows (respectively its dividends). For a project (P) secreting cash flow (CF), over n periods, discounted at r, we obtain:

$$P = \frac{CF_1}{(1+r)} + \frac{CF_2}{(1+r)^2} + \frac{CF_3}{(1+r)^3} + \ldots + \frac{CF_n}{(1+r)^n}$$

The dividend discount method is suitable for low-risk projects and linear growth. The methods of discounted cash flows or "discounted cash flow" are better suited to technology projects because they focus on cash flow: the "*free cash flows*." Specifically, we distinguish cash flows available to the firm from those available to the equity. In the first case, it is free flow of all forms of remuneration; the calculation of value is intended to both equity investors and to lenders. In the second case, there is a net flow of debt service, the calculation of the valuation is therefore available to equity investors. The table below summarizes the evaluation methods by discounting dividends and cash flows.

Table 1
The different discounting models and their uses

Discount model	Discount rate
Discount dividends model	The discount rate is that of equity. This model does not apply to projects with negative net result is a medium-or long period of time. However this model is appropriate for projects of extending the range of products, services or market.
Discount cash flows available to the firm model	The discount rate is the weighted average cost of capital. This model also called "free cash flow to the firm" is suitable for projects that: - Moderate volatility of expected cash flows - Access to debt sector representative - A stable beta
Discount cash flows available to equity model	This model updates the available cash flows to the cost of equity, "free cash flow to equity." It is particularly suitable for high-tech companies that have: - A high beta - Investment and working capital needs high - Profits appear only after an initial period of activity - Low dividends or dividends not available - Access to debt that is not representative of the industry

Predicting future cash flows is difficult for projects in the field of new technologies or new markets. This results in possibilities for error and variance prediction resulting mainly:

- Under-investment: Investments are lower than those in the sector. This technique obviously overvalues the project given that calculated free cash flows are thereby increased. A financial manager who pays any attention to the investment structure is seen as a surprise on the negative in the medium term in areas of rapidly depreciating assets like computers.

- Expenditures on R & D: The accounting standard requires entering the R & D in the income statement even though they are supposed to generate future growth of the company. In the case of an IT project, it is common for R & D reached 50% of costs. Thus, it is recommended to reprocess spent on R & D under the assumption that they are amortized over a period of 2 to 10 years. Similarly lease credits will be retired. These adjustments will increase the operating result of the project and the total assets.

- Cash flow forecast: forecasts of future cash flows are not realistic. Investors revise key assumptions of the business plan. This review is called "degradation of the business plan".

- The volatility of expected cash flows: The greater the extent of the distribution of expected income, the greater the volatility of cash flows that results in an increased risk of the project. A project will be better valued than the expected cash flows are stable, recurring and clearly identified. Therefore, it will be preferable to target a

market that has control in the first phase of the project life rather than disperse and create uncertainty about future cash flows. In the latter case, the risk exposure of the project will involve discount rates much higher implying devaluation. Generally, investors prefer projects with long-term contracts and recurring.

III.   IMPLEMENTATION OF THE VALUATION OF THE COMPANY BY THE CASH FLOW TO EQUITY

This evaluation method is particularly suitable for long-term projects at very high growth rates early in their life and going through a transition period before stabilizing. These projects point to a very high growth rate of sales during the first phase (the expansion of sales is due to the impact of each client won early in the period and imposes high costs for marketing achieve the conquest of a market, significant investment and a surge in net working capital following the turnover. This results in negative cash flow in the early life of the project, the inability to pay dividends during the first part of the project life, difficulty to use a debt, so a low debt ratio, and a much diversified market and/or emerging, so risky during the growth phase. The chart below allows viewing financial projections of cash flows available to equity (FCFE) project in TV land. We observe a "break-even" point at which the FCFE become positive in year 5 and the phase of "roll-out", the most critical phase, during the three years. The name of this phase originates from investors who must now renew their position, a "roll-out", by providing new capital needed to develop the project. The curve of cumulative cash flow is also rich in information as it tells us that it is only during the seventh year that the negative cash flows will be offset by positive cash flows. This period generally reflects the time of porting before outside investors, such as venture capitalists, can realize a successful exit.

Figure 1
Financial flows and cash flows available to equity
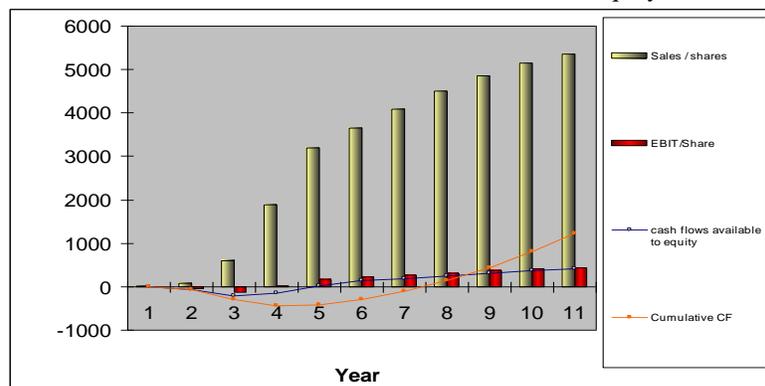
A.   Calculating the Value of the Share of "Wellness TV"
Given the risks early in the project, we considered a beta of 1.6 while it is 1.2 for the company's cable television industry, which may be considered comparable. With a

risk-free rate of 7.5% and a risk premium of 5.5%, the cost of equity is equal to 7.5 + 1.6*5.5, or 16.3%. Thus, the available cash flows to equity are discounted at a cost of equity of 16.3% for the period of strong growth. For the transition period, it is considered a beta declines linearly from 1.6 in year 5 to 1.2 in 10 years. The cost of equity increases from 15.86% to 14.1%.

Year	Beta	K*
6	1.52	15.86
7	1.44	15.42
8	1.36	14.98
9	1.28	14.54
10	1.20	14.10

K*: Cost of equity in %

We retain the beta of the year 10, so a cost of equity of 14.1% for the period of stable growth and we hypothesize that the project will have infinite growth of 6%. The terminal value will be equal to (409.75 x 1.06) / (0.141 to 0.06) 5 = 362.11 euros per share. The sum of available cash flows to equity discounted rates we have previously defined tells us the value of a share of the project "Wellness TV": 1 557.37 euros.

	Present value of FCFE *
Growth period	-265.45
Transition period	389.05
Period of stable growth	1483.80
Value of a stock	1557.37

FCFE*: available cash flows to equity

IV.   VALUATION MULTIPLES

Analysis concepts for the equity investment in growth companies primarily are based on the estimated value of the whole enterprise. On this estimate, the investor is able to establish a valuation of participations he wishes to take on the capital. Determining the value of a business today involves knowing what it will be worth tomorrow. When applying the method of discounted cash flows to high-tech companies, it is sometimes difficult to produce an assessment because of recurring losses early in the cycle and the definition of the terminal value. The venture capitalists tend to use in most cases the sales comparison approach to determine the valuation multiples or "*compared trading multiples*". This method consists in determining the expected value of the company by applying a valuation multiple to income. The best-known multiple but probably the least suited for growing companies is the PER, "price earnings ratio" because this type of firm generates little profit at first. Therefore, investors pay particular attention to three other measures of income: (1) the turnover, (2) earnings before interest, taxes, depreciation and amortization, also known as "EBITDA", and (3) earnings before interest and taxes, also known as "EBIT".

We can also calculate a valuation multiple based on other accounting indicators such as total assets or from statistics (number of clients, number of pages for a website, etc.), but these measures tend to be neglected by analysts in favour of the indicators listed above. The choice of measure will depend on the sector in which the enterprise carries on business, risk and the difficulty in predicting earnings, as many variables which support the hypotheses.

To evaluate a privately held company, we first calculate the value of a twins company publicly traded.

Table 2
Sample calculation of valuation multiple

Market Capitalisation	**5,300,000** Euros
Market value of debt	3,000,000 Euros
Cash	-300,000 Euros
Enterprise Value (**EV**)	**8,000,000** Euros

Next, we measure the EBITDA (or EBDITDA), EBIT and net income.

Income	
EBITDA	**600,000** Euros
Depreciation and provisions	50,000 Euros
EBIT	**650,000** Euros
Interest	150,000 Euros
Tax	200,000 Euros
Net Income	**300,000** Euros

Finally, we calculate valuation multiples on the three indicators.

	EV / EBE	**EV / EBIT**	**PER**
Numerator	8,000,000	8,000,000	5,300,000
Denominator	600,000	650,000	300,000
Multiple	**13.3**	**12.3**	**17.6**

By repeating these operations on at least eight companies twins that we can define the multiple average or median valuation to be applied to a target company. The multiple chosen will be the most representative among the various companies studied. We prefer to choose the median rather than the average multiple. In the following example, the valuation multiples of companies twins range from 12.8 to 18.1 times EBIT. The valuation range of the target is between 256 and 362 million with an expected EBIT of EUR 20 million.

Table 3
Example of valuation by the equity method of multiple (in millions of euros)

	Low	Mean	Median	High
EBIT	20	20	20	20
Multiple	X 12.8	X 15.3	X 16.2	X 18.1
EV	**256**	**306**	**324**	**362**
Cash	-10	-10	-10	-10
Liabilites	150	150	150	150
Equities	**116**	**166**	**184**	**222**

To complete this assessment, it will moreover be excluded from the sample companies with multiple very high or very low as well as companies that deviate from the target profile to avoid bias valuation. The most frequent cases are companies that are either much smaller than the target, therefore, that have not the same cost structure, those are deficits while all others are beneficiaries. In the case presented we will choose a multiple valuation of 16.2 times EBIT bringing the value of the company at 324 million and the equity value to 184 million euros.

To calculate the present value of this company, it will take the weighted average cost of capital if the calculation refers to the EV and the cost of equity if the calculation relates to equity.

V.   VALUATION ERRORS

The limits of the evaluation method by the multiple are obvious and lie in the choice of twin companies. This choice is based on qualitative criteria and is accompanied by subjectivity bias judgments. It is therefore essential to make crossing results obtained with different measures of corporate value but also reliable data. An ideal list of comparable companies should include six to ten companies with the following selection criteria:

	Explanations
Sector	Companies will be chosen in the same industry. Some companies are classified voluntarily or by reorientation of activities in sectors that do not directly correspond to them. Turnover by activity is an indicator for correct positioning of the industrial enterprise.
Geographical Location	Businesses must be within the same country or in the same geographical areas: Europe, Asia, United States ... Valuing a European company by comparing it to a South American probably will take you to a very high overvaluation. Differences in accounting standards between countries are also sources of problems in the evaluation.
Size	Large firms have diversified, so it is best to choose "pure players" small or medium.
Rate of growth	The percentage of growth should be similar. We will retain firms with growth rates between 8 and 15%
Profitability	The companies selected must be cost effective.
	Listing a company in different markets can lead to significant valuation differences. For their size, companies listed on the first market have

Place of listing	diversified activities in comparison with companies listed on a stock market growth that have targeted activities and higher growth rates. Be kept away enterprises whose turnover is less than 50% of the activity of the target company.
Capital Structure	Capital structure should be reasonably comparable. There is such that companies in information technology listed on the New Market have no long-term debt. Compare them with companies in the balanced structures is a source of serious errors in the evaluation.
Data	We must pay special attention to the validity of data. The databases are not error-free and by experience, on ten companies, we can expect two errors or incomplete information. When one is about to invest several million euros, it is better to use original documents for a final assessment.

Building a grid with more than six companies meeting the criteria listed above is a difficult exercise if not impossible in most cases. It requires adaptation according to the company studied. In the case of very innovative companies we are sometimes unable to find a twins company. We will then attempt reconciliation with companies from another industry that is expected to develop the same. In this context, we accept greater risk exposure that will be considered in updating the value of equity.

VI.   CONCLUSION

This article discussed the methods to define a range of financial valuation of the project. The extent of this range increases with the endogenous and exogenous risks to the project. We observed that investors especially tend to underestimate a project that seems to be risky. Financial engineering provides solutions that tend to offset the information asymmetry between investors and project developers as it allows the alignment of interests between the parties.

But determining the financial value of business-projects marked considerable uncertainty and remains a complex process that leads, in many cases to significant undervaluation by investors and partners in order to prevent risks to which they expose themselves. This underestimation may be such that carriers of the most promising projects find themselves unmotivated. Therefore, we understand the fundamental role in the financing of the business-project, the expertise of venture capitalists and their qualities to design contracts to the point that large companies are creating their own funds. However, to preserve their reputation and their access to capital markets, financial intermediaries must provide opportunities for capital gains to shareholders accompanying the development of an enterprise-project. This raises the problem of liquidity of the securities held by venture capitalists because they are positioned on the OTC markets highly specialized. The lack of liquidity and the difficulties it causes to output induce an underestimation as the capital investors hampered investment in advanced technology projects.

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