

Venture-Capital: A Favorable Factor of Regional Development in Tunisia

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ABSTRACT

Venture capital is a financial innovation dedicated to the financing of start-ups and companies with high growth potential. This article is a contribution to the study of venture capital as a means of financing the overall and regional development. The integration of venture capital in regional development is fiscal decentralization and investment. The venture capital activity is characterized by enormous constraints (asymmetric information, agency problems, illiquid securities ...), which the regional venture capital responds to by benefits granted by the government and benefits related to investments in regional development areas. The performance of venture capital and the target of the entry depend on several variables (specific to the investment or its environment): Affiliation, the number of invested companies' investment sector, development Stage Company funded, the amount invested, and the time required for investment. Despite of multi efforts, a lot of work is still needed from the part of the Tunisian market to improve the performance of venture capital and to integrate regional development in order to achieve financial decentralization.

Keywords: *venture capital, start-up financing, finance companies with strong growth potential, overall development, regional development, venture capital performance.*

1. INTRODUCTION

In a distinguished article Ati Abdessatar (2009) shows that venture capital as a financial innovation is not a simple phenomenon mutational character to spot. It is a dynamic continuous upgrading involved in the creation and development of SMB. He then noted that the support and promotion of the industry capital (SICAR) in Tunisia become more important and necessary because they represent a new financial alternative for new developers and SMB whose financial standing is very low or absent and do not have sufficient and tangible warranties to strengthen their capital base.

The regional development is an integral part of the activity of VC on the Tunisian market.

After the revolution of January 14-2011, the regional development is now elevated to a fundamental value of this revolution. The regional development policy has been strengthened since 2004 by erecting the pole region of active development.

The main cause of this policy is structured around the following themes:

- Consolidation of decentralization and devolution of investments;
- Strengthening complementarily between regions;
- Improving the competitiveness of regions.

Small and medium Tunisian enterprises need venture capital to enable them to find the capital required, especially companies located in areas of regional development.

The nature of the intervention of venture capital is based on a proper and advisable ratio of equity, a medium and long term coaching. Elements of decision-

making participation are based on among other things, the outlook for output and capital gains earned in.

Venture capital is selective by necessity, since running the risk of losing the capital invested without any real or personal guarantee, pending payment of hypothetical capital gains (Abida R. 2012).

Our goal in this work is to evaluate the impact on the performance achieved in the output variables of decision making investing or financing activities. To evaluate this impact, we will use the concept of internal rate of return.

To do this we first present the state of the venture capital activity in the Tunisian market, in following we specify the decision variables of overall funding or projects located in areas of regional development. Finally we try to evaluate the impact of these variables on the performance achieved more on the overall plan than on the regional development.

2. THE VENTURE-CAPITAL ACTIVITY ON TUNISIAN MARKET

"Venture capital plays significant role in financing new and young companies seeking to grow rapidly". (Rafael Repullo & Suarez, 1998).

The role of venture capital is very important in the financing of start-up, it provides not only funding but also advice and support for business. The number of projects financed by venture capital companies is growing

and the demand for venture capital funds are preferred (Gilles Mougenot, 2007).

It is obvious to analyze the role of the venture capitalist, through his participation in the financing of companies in the Tunisian economy and developing countries.

Our analysis is based on the analysis of the economic impact and added value of the investment companies of venture capital as well as on the French market in the Tunisian market and in particular the impact of their participation in the regional development program

2.1 Tunisian VC: Business Performance

Tunisia was the first Arab and African country to have introduced the venture capital industry in the financial system as a source of financing of the economy in 1990, but the Tunisian capital risk is relatively young compared to its French counterpart and U.S. despite its youth, this sector has continued to grow and develop to mark its place in the improvement and development of the Tunisian economy.

Private equity or venture capital as a means of equity financing of unquoted companies either in development or creation is still in development phase needs to raise funds and choose the companies to be funded.

2.2 Funds Raised and Invested Enterprises

The increasing interest in private investment during the Tenth Development Plan for the period 2002-2006 and Eleventh Development Plan for the period 2007-2011 has been realized thanks to the intensification of efforts to support and Business Enterprise, improved benefits support structures, to the relief of procedures to start business, the abolition of licenses and the establishment of a network of business incubators and centers business¹.

According to the report of the TAVC² produced and published in 2011, available data on the activity of venture capital show that:

For the number of projects in 2007 and 2010 data are summarized in the following figures:

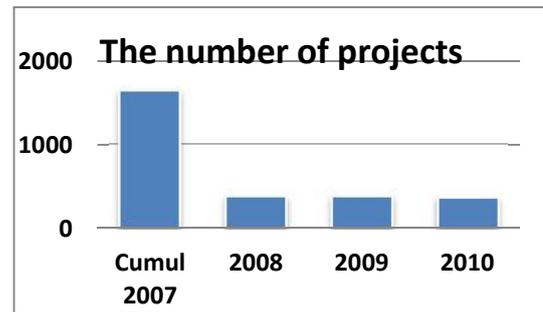


Fig 1:

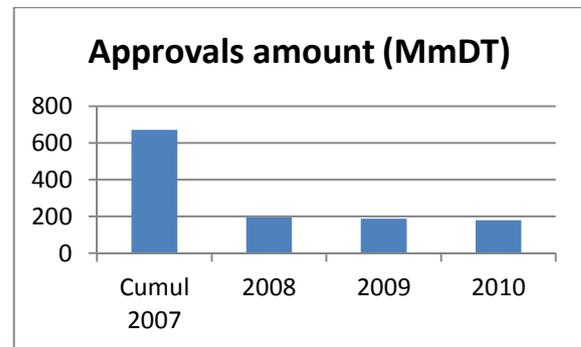


Fig 2: Approvals amount invested by venture capital companies 2007/2010 (Mm DT)

As a result of these measures, the number of projects witnessed a slight decline in number between 2007 and 2010 in Contrast with the growth of investment in the country in volume (+14.8% in 2008, +9.3% in 2009 and +8.3% in 2010)³. The total projects funded in late 2010 were 364 projects, against 187 projects in 2007. This number is up sharply from one year to another (an average of 10 years before 2005, the number of projects funded was 150 projects per year (Riadh ABIDA, 2006)) indicating that, despite the decline, as venture capital moved increasingly in the funding landscape and the Tunisian company provides an answer to the financial problems of SMB / SMI. On the Tunisian market there are forty participants including 28 venture capital represents 95% of the business activity of venture capital (SICAR).

Correlated with the number of projects funded, the amounts earmarked for these funds are decreasing continuously from one year to the next.

The balance of VC's activity presented in the report "mission study on equity financing different phases of life of the Tunisian company" developed by Pascal GENDREAU from March 24 to July 4, 2008, shows that "the number and volume of capital investment activity can be described as modest. 196 operations in 2007 for a total

¹ Social and economic development in Tunisia: Towards a new level of growth from 2007 to 2011. June 2007 p 10.

² TAVC: Tunisian Association of Venture Capital

³ Report on the capital investment in Tunisia, TAVC, 2011

of 56.8 MTD, which represent 5% of the investment companies if the whole activity VC focused on the manufacturing industry. Given the accomplishments outside the industry, the percentage is probably around 3%."

The presence of venture capital funding in the fabric of Tunisian companies is low. The analysis of the activity of this actor shows a positive balance. To adapt the profession to the economic environment, further steps are taken for the promotion of investment such as the extension of the scope of intervention of VC and mutual funds at risk⁴.

Participation of venture capital is heterogeneous between trades, amounts achievements of these organizations during the year 2010 are as follows: 45% for projects creation (VC), 55% for projects extension (growth capital), while the number of projects in 2010 was distributed as follows: 60% for projects in creation, 40% for extension projects, where a virtual absence of operations of transmission.

The creation occupies a priority because this compartment is greatly helped by the government⁵.

In his practice, the Tunisian venture capital is distinguished from the practice of capital investment in France because the Tunisian VC finances mostly the creation while in France it finances the development and transmission.

In its practice, this concentration on the stages of creation and development is in response to government policy that encourages new businesses (including developers of new projects), encouraging the creation of companies in the employability and the development of existing businesses.

To encourage individual and collective initiatives and prepare the conditions for accelerating the pace of investment and entrepreneurship, particularly in growth sectors and innovative activities in the framework of a coherent system, covering aspects related to the organization, legislation and regulation.

Strengthen the competitiveness of the national economy, to further stimulate the spirit of initiative, encourage innovation and creativity and promote the sectors and activities with high technological content and high added value.

⁴ Report BCT June 2009 p 201.202

⁵ Assistance of public power: Tax-free entry and exit, which is exceptionally advantageous, compared to France or the tax benefit is the output.

In this context the promotion of investment in Tunisia, private investment has benefited from new horizons in relation to the importance of measures for the promotion of new and exciting activities that focused on the establishment of structures responsible for regional business creation and promotion of innovative projects, the capital of VC was doubled⁶.

VC is opting, in 75% of cases, for the surrender of their shares in the capital of the project proponent. This poses the problem of low returns on investment. Traded output remains marginal place in Tunisia because of the stock market regulatory framework requiring any business that wants to join the side of the minimum capital market and making a profit for the years prior to the introduction (Walid CHEDLY, 2005), whereas in France it is played out on the market and the industrial output⁷.

2.3 The Regional Venture Capital Figures

In terms of approvals, until 31/12/2010, venture capital (creation) and capital development (extensions) represented 91% of the activity of operators of the capital investment. VCs regional accounted for 31% of venture capital activity and 6% of the business capital development. The regional venture capital through these figures is therefore an important support in entrepreneurship while Trend is down.

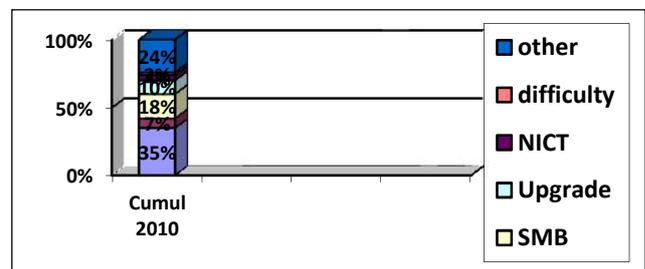


Fig 3: Analysis of cumulative investments by funding framework in late 2010⁸

⁶ Social and economic development in Tunisia: Towards a new level of growth from 2007 to 2011. June 2007 p 11 ff.

⁷ To better define the outputs via the stock exchange, the authorities proceeded to the creation of alternative market access of SMB to financial market conditions adapted to their size.

⁸ Statistical capital investment activity 2007/2010, page 7, ATIC June 2011.

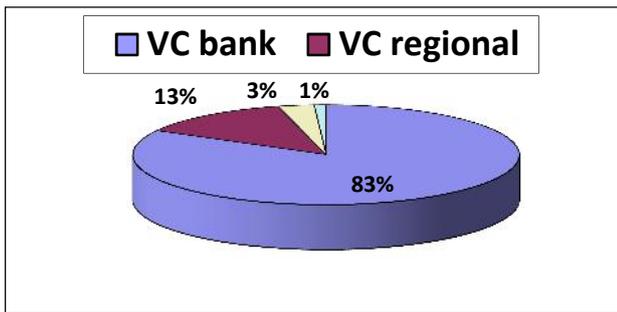


Fig 4: Distribution of investments in ARD⁹

Investments in regional development zones show a rising pace between 2008 and 2010, accounted for 35% of investment accumulated at the end of 2010. In fact, seven venture capital firms participating in regional rate of 13% in funding for projects installed in ARD. The amount invested in the areas of regional development has been a clear trend between 2008 and 2010 to go from 48.3 to 91.2 Mm DT, an increase of 23% in 2009 and 53% in 2010.

The venture capital industry has been a central concern of governments and the financial world in Tunisia. In 2008 the law of VC was revised and in 2009 the tax was repealed by the Finance Act 2009 to provide an environment conducive to more organized and functioning of venture capital, facilitated by a web of businesses, mainly industrial likely to be a target for capital investment (Pascal Gendreau, 2005).

Venture capital in Tunisia helps to create a favorable economic environment for new and existing businesses.

In addition to the efforts made by the public authority, the signing of the free trade agreement with the European Union in date, consequently, increased competition, have brought to light the importance of equity in the Tunisian business survival. Consequence: venture capital players have multiplied (Walid CHEDLY, 2005).

3. REGIONAL DEVELOPMENT AND PRACTICAL REALITY: EMPIRICAL TEST INVESTIGATION ON THE CONTEXT OF TUNISIA

Venture capital risk is minimized by the specific implementation of appropriate technologies at various stages of negotiation. Starting with the analysis phase prior to investment, as is suggested, at this stage the venture capitalist will consider the development plan of the firm, its financial statements, and its reputation among its partners

The venture capitalist often sell the capital of the company: By selling its shares on the stock exchange, by selling industrial or other types of output options.

3.1 Defining the Issues

The decision mechanism of the venture capitalist is based on arbitrage risk / return. The latter seeks to reduce these risks by specific implementation of appropriate technologies at various stages of negotiation, from the initial selection step up the output and sale of the stake.

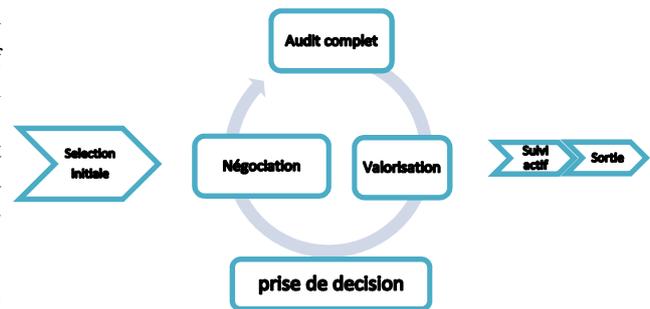


Fig 5 : Investment process and value chain venture capital¹⁰

The choice of investment is made according to this fact: the business of the company invested, development phases, the geographic location of the company invested ... the goal of profitability is directly related to the option output chosen by the venture capitalist.

The purpose of this study is to explain the practical question of profitability of venture capital, to determine the relevant variables for this variable and detect failures of the market for Tunisian SICAR. It is in fact the analysis of rate of return earned by the SICAR through the one hand the overall investment and partly from funds invested in regional development areas.

3.2 The Conceptual Model

The objective of this research is to compare several approaches and hence several types of variables in a single explanatory model of the influence of variables or conditions of investment on performance achieved in date out of the venture capitalist.

3.2.1 Presentation of Key Assumptions

3.2.1.1 The Overall Investment Influences the Performance of SICAR

In the context of venture capital, Casamatta, Cornelli and Yosha (2002) have shown that performance is positively correlated with investment conditions. Indeed it is sometimes difficult to determine whether the return is

⁹ ARD : area of regional development.

¹⁰ Mondher CHERIF Dubreuille and Stephane, 2005, Value creation and capital investment, 159 p.

made to the investment conditions or other factors (Rajan and Zingales (2003) and Black and Gilson (1998). Investment conditions introduce the volume of overall investment, stage of development and industry funded firms. Several studies have addressed the concept of leaving the venture capitalist without determining accurately the conditions for success of this event.

The following assumptions are made in order to anticipate a certain direction in the relationship between the investment and performance output.

- H1: The investment volume influences the performance achieved
- H2: The business of the company financed influences the performance achieved.
- H3: The developmental stage of the business financed the return realized.

3.2.1.2 Influence of Investment in ZDR Performance

One of the major hypotheses of the research on performance of the output, and this since the creation of venture capital is the successful participation of a SICAR through diversification. In this study, diversification is evidenced by the involvement of venture capitalists in financing regional development seen to benefit. These assumptions will be made as follows:

- H4: The level of investment in regional development has an effect on the performance achieved.
- H5: The business of companies financed influences the performance achieved.
- H6: The development stage companies financed influences the performance achieved.
- H7: The geographic location of businesses financed affects the return realized.

Based on the work of Schwienbacher (2004) and Schmidt and Walz (2008), we distinguish several variables that influence the performance achieved at the exit, these variables among the industry, stage of development and area establishment of companies financed.

Regarding the stage of development, companies located in regional development areas are mostly small and medium enterprises in the development stage. These are companies with strong growth potential in case of euphoria and a risk of loss in case of failure.

3.2.1.3 Influence of Global Order Data

Finally, based on the work of Rajan and Zingales (2003), Black and Gilson (1998) Kaplan and Schoar (2005) and Cochrane (2005) express a belief in the importance of experienced venture capitalists in financing and selection of profitable projects. The source of funds would include provision of advice and experience for funded projects; this reflects the importance of venture capital affiliate in achieving significant results. This can be formulated by the following assumptions:

- H8: The age of corporate SICAR influences the performance achieved.
- H9: The affiliation of companies SICAR influences the performance achieved.

3.2.1.4 Synthesis

The objective of this part was to present a general theoretical model and the assumptions that result in the conceptual model attempts to take into account variables that have, historically, been studied.

The model and assumptions that were presented tend to take into account the different variables that are likely to be considered when financing a project. It is therefore to consider several types of influence. In particular, this model attempts to show the importance of performance in the lives of venture capital companies.

On the one hand, specific variables has the investment decision are able to influence performance and participation, on the other hand, diversification in the portfolio investment can influence the performance of the investment.

It was also hypothesized to influence the professional experience of venture capitalists and the source of funds on the reputation of participation.

4. RESEARCH METHODOLOGY

To test hypotheses, as defined in Section IV, it seems appropriate to follow an experimental approach, particularly to address the relationship between the return earned by the venture capitalist and investment decision variables. Indeed, the variables affecting performance that are the conditions for investment and portfolio diversification variables must be studied so that the links between them in performance can be understood.

Ulrich Hege, Frédéric Palomino and Armin Schwienbacher (2009), in connection with the performance analysis of venture capital, introduced the idea that the achievement of performance may be crucial to understand the influence of variables on investment yield.

As part of handling the type of involvement, we will try to manipulate this involvement on the Tunisian market risk capital. This raises the question of whether the investment return earned on the influence of a young and emerging market. The procedure for pre-test presented in the following lines trying to get some answers to this question.

4.1 Criteria and Sample Selection

So that the study takes place under realistic conditions, we retained in our sample all venture capital firms active in the Tunisian market, that is to say all SICAR companies. Data were collected from a questionnaire sent to these companies

The questionnaire confines the discourse in a rigid frame. However it has the advantage of quantifying elements that were previously the order of printing. At company level, speed, low cost and simplicity of implementation are the benefits derived from the questionnaire form that claims to be rational.

To ensure the validity of the questionnaire¹¹, great care has been taken during its production, the first questions are general and the depth order is increasing with the order of questions. The questionnaire was constructed with reference to conditions in the environment of venture capital, the objectives of the latter during the funding and when it was released.

We sent the questionnaire¹² to all investment companies with venture capital of Tunisia (SICAR) during June 2010. Among the 44 SICAR under agreement (see Appendices list SICAR recognized) to which we sent the questionnaire 26 companies responded.

4.2 Selection of Explanatory Variables

To analyze the performance achieved by the companies of venture capital in Europe and America a study by Frederic Palomino (HEC School of Management and CEPR) and Armin Schwienbacher (University of Amsterdam) in their article "Determinants of Venture Capital Performance: Europe and the United States."

These authors chose the following variables to explain performance:

- Affiliation (AFFIL): Is a variable that determines the nature of venture capital: bank subsidiary, non-bank subsidiary of Venture Capital and Independent.
- Age society (AGE): Is the age of the company SICAR
- Volume of total investment (VINV_G): Is the amount of funds reserved for the financing of approved projects (million TND).
- Volume of investment in DR (VINV_DR): Is the amount of funds reserved for funding projects located in regional development areas.
- Stage Investment for this variable is considered:

- ✓ Getting Started (MR; MR_DR): for companies of venture capital financing companies in launching stage.
- ✓ Development and Expansion (AUTRE; AUT_DR): companies for venture capital firms in financing stage of development and expansion.

- Investment Sector (INDUST; AUT_SE and IND_DR; AUT_SEDR): represents the percentages provided by the venture capitalist for investment in selected sectors (industrial, tourism ...).

In our analysis we will use variables meadows cited for the performance achieved by the SICAR in the Tunisian market.

4.3 Dependent Variable: Performance

The performance of venture capital companies is measured by two variables: internal rate of return and net internal rate of return (IRR Net) of the investment made.

This is the return earned by the venture capitalist after the release. For our study profitability is either fixed in advance by agreement between the venture capitalist and the entrepreneur (the date of funding) is determined depending on the conditions output.

- Internal Rate of Return: The IRR is the discount rate that cancels the current value in a time T in a series of financial flows.

➤

$$\sum_{t=1}^n \frac{I_t}{1 + Tr} - I_0 = 0$$

The internal rate of return net TRIN: the IRR is achieved by a subscriber on its investment in private equity vehicle (FCPR, SCR ... etc..). It takes into account the negative flows related to fundraising and successive positive flows related to the distributions (in cash and sometimes in securities) and the net asset value of shares held in the vehicle at the time of calculation¹³.

In our study the internal rate of return is the rate charged by the companies of venture capital or the performance achieved through the outlet or sale of investments.

We will proceed in the first step, a comprehensive analysis of the total investment made by the SICAR and the required rate of return in the second stage analysis of performance achieved through the participation of regional development SICAR and the variables that affect the yield.

¹¹ The idea of the questionnaire is taken from the work of Ulrich Hege (HEC School of Management and CEPR), Frederic Palomino (HEC School of Management and CEPR) and Armin Schwienbacher (University of Amsterdam) in November 2003 "Determinants of Venture Capital Performance: Europe and the United States." SSRN working paper.

¹² The details of the questionnaire is given in Annexes

¹³ Net performance of French actor's equity at end-2009.

5. DESCRIPTIVE STATISTICS

5.1 Preliminary Analysis

The interpretation of responses is made on the basis of a set of assumptions on which is based study conducted by Ulrich Hege, Frédéric Palomino and Armin Schwienbacher (University of Amsterdam) in November 2003 and what we referred. These assumptions are made to check the importance of the variables defined above on the performance¹⁴ achieved by the venture capitalist¹⁵.

Before performing the regressions, it is necessary to study the correlations between the independent variables to test the multicollinearity problem. Multicollinearity refers to the situation where two independent variables are highly correlated. This problem can be detected by analyzing the correlation matrix of Pearson. If the correlation coefficient exceeds 0.7 (limit set by Kervin, 1992), we conclude the presence of a multicollinearity problem. Table 1 presents the Pearson correlation coefficients of the various exogenous variables included in our model.

¹⁴ In the venture capital industry, rates of return are Typically Face value have internal rates of return (IRR); aggregate figures are sporadically released by NVCA in the U.S., in Europe as well EVCA have some of the national associations. Ulrich Hege, Frédéric Palomino and Armin Schwienbacher, November 2003 "Determinants of Venture Capital Performance: Europe and the United States". SSRN, working paper.

¹⁵ Source: Ulrich Hege (HEC School of Management and CEPR), Frederic Palomino (HEC School of Management and CEPR) and Armin Schwienbacher (University of Amsterdam) "Determinants of Venture Capital Performance: Europe and the United States." SSRN Working Paper (2003).

Table 1: Correlation matrix for explanatory variables

Correlations												
	AFFIL	AGE	VINV_G	MR	AUTRE	INDUST	AUTRE_SE	VINV_DR	MR_DR	AUTRE_DR	IND_DR	AUTRE_SEDR
AFFILIAT	1	-0,123	0,534	0,098	-0,101	-0,031	0,031	0,367	0,183	-0,077	0,203	-0,108
AGE	-0,123	1	0,127	0,235	-0,23	0,024	-0,024	0,055	-0,104	-0,026	-0,261	0,163
VINV_G	0,534	0,127	1	0,032	-0,035	0,044	-0,044	0,913	0,038	0,045	0,193	-0,138
MR	0,098	0,235	0,032	1	-1	-0,043	0,043	0,049	0,316	0,039	0,017	0,319
AUTRE	-0,101	-0,23	-0,035	-1	1	0,035	-0,035	-0,051	-0,322	-0,03	-0,024	-0,309
INDUST	-0,031	0,024	0,044	0,043	0,035	1	-1	-0,068	-0,055	-0,26	0,424	-0,743
AUTRE_SE	0,031	-0,024	-0,044	0,043	-0,035	-1	1	0,068	0,055	0,26	-0,424	0,743
VINV_DR	0,367	0,055	0,913	0,049	-0,051	-0,068	0,068	1	-0,02	0,105	0,075	-0,014
MR_DR	0,183	-0,104	0,038	0,316	-0,322	-0,055	0,055	-0,02	1	-0,65	0,618	-0,254
AUTRE_DR	-0,077	-0,026	0,045	0,039	-0,03	-0,26	0,26	0,105	-0,65	1	-0,276	0,495
IND_DR	0,203	-0,261	0,193	0,017	-0,024	0,424	-0,424	0,075	0,618	-0,276	1	-0,749
AUT_SEDR	-0,108	0,163	-0,138	0,319	-0,309	-0,743	0,743	-0,014	-0,254	0,495	-0,749	1

** The correlation is significant at the 0.01 level (bilateral).
*The correlation is significant at the 0.05 level (bilateral).

The correlation matrix (Table 1) shows the relationship expected between all explanatory variables. With the exception of the correlation between variables that reflect the structure of corporate control, it should be noted that other correlations between the independent variables are low or temperate a fact that minimizes problems of multicollinearity.

Table 2: Average characteristics of the responses of Tunisian SICARs

	Average	Median
Total Investment		
Number of companies	56,05	45
Volume of total investment	27452650000	7858000000
Start-up		45%
Development and expansion	44%	43%
Investment In Zdr		
Number of firms located in ZDR	21,8	16
Volume of investment in DR	7267892700	3218800000
Start-up	67%	69%
Development and expansion	24%	24%
Performance	3269049000/ 12%	642900000/ 8%

Data Interpretation: The interpretation of the table shows:

- Total investment made by the SICAR:
 - The average number of financed (portfolio) companies is around 56 companies,
 - Average volume of global investment: the average ticket investment is 27.5 million dinars. The average ticket in France is 1.6 M €
 - Start-Up, Expansion and Development: 49% of the portfolio companies are in the seed stage and creation (22% in France) and 44% of the portfolio companies are under development (46% in France) these proportions are explained by the orientation of businesses being created and the funding of new developers who are encouraged by the state on the one hand, and on the other hand such companies are increasing in creation by encouraging private initiative.
- Investment made in regional development areas by SICAR:
 - Number of firms located in ARD: represent almost half of the companies financed by venture capitalist provided with the obligation to invest in regional development areas.
 - Volume of investment in RD: average ticket is about 727 000 dinars.
 - Start-Up, Expansion and Development: 67% of the portfolio companies are being created and 24% of the portfolio companies are under

development this is explained by the government objective to encourage developers to invest in new the regional development areas.

- Average yield: the average return achieved by the SICAR is 12%. TRI measured at end-2009 on the French market is 10.1% for a 10-year horizon and 22.4% for a 5-year horizon.

5.2 Method of Estimation

The data analysis practice of the Tunisian market involves many types of explanatory variables evaluated in the relationship with the return earned by venture capital companies.

These relations involve only two variables (a variable and a variable explained), where the assumptions are based on relationships of variables with performance.

Thus the ANOVA method, based on analysis of variance, is needed to study the overall relationship postulated by the conceptual model of this article.

5.3 Variable Analysis

Hypothesis testing on the general investment is made through analysis of variance. The objective of the analysis of variance is generally that of regression that is to say, to specify the relationship between the variables together. Analysis of variance (univariate or multivariate ANOVA: MANOVA) was used to investigate the main effects and interaction of independent variables.

Indicators to evaluate analysis of variance are numerous and only a limited number will be used in the following pages. Besides the usual indicator that is the F test (with degrees of freedom and significance level), the Pearson correlation coefficient (R²) represents the percentage of variance of the dependent variable explained linearly by the independent variable. This interpretation, however, implies that the dependent variable is quantitative (Garson, 2001).

6. EMPIRICAL RESULTS AND DISCUSSION

This part aims to present the results of this research to attempt to validate the set of assumptions that was presented in previous sections.

After a few usage checks on the quality of data used, a series of tests will be used to study different type of relationship.

Initially the data overall investment (total investment volume) included in this study will be evaluated to verify the hypothesis of a direct link between them and the performance achieved by the SICAR.

Then the effect of investment conditions (stage of development and industry funded firms) on the

performance improvement achieved will be assessed and the effect of the location area (group of Regional Development).

The age of the SICAR and affiliations are more subjective variables than the conditions of the investment whose influence will be discussed.

Achievements that have been established between these different groups of variable will then be considered in investment decisions by the SICAR snuff.

6.1 Normality of Variables

A condition of the variance analysis posits that the variables are normally distributed around the mean. In other words the distribution is normal. Although the normality of the data is not perfect, the results presented in Table 2 below are quite satisfactory.

On the one hand the asymmetry ratios are close to 0 and are all less than about 3.29, this shows that the data has a tendency to be rather evenly distributed around the average.

On the other hand the kurtosis or concentration is also satisfactory. Indeed, it is fairly close to 0 but when it moves away from this value is rather to go to negative values. If the data were plotted on a two-axis dimension (modality * frequency) curve would be flatter than a normal distribution. This means that the data tend to be distributed more evenly among the selection criteria for projects funded.

Table 2 : variance et normalité des variables expliquées

		Statistiques								
		AFF	AGI	MR	IND	MR	IND	G1	G2	REN
N	Valide	26	26	26	26	26	26	26	26	26
	Manquant	0	0	0	0	0	0	0	0	0
Moyenne		,38	,57	,52	,61	,70	,69	,25	,27	,10
Ecart-type		,49	,50	,23	,22	,24	,28	,26	,23	,07
Asymétrie		,50	-,3	-,3	,0	-,8	-,7	1,1	-,0	,57
Erreur std. d'asymétrie		,45	,45	,45	,45	,45	,45	,45	,45	,45
Aplatissement		-1,8	-2,0	,16	-,4	1,0	-,3	1,2	-1,5	,28
Erreur std. d'aplatisse		,88	,88	,88	,88	,88	,88	,88	,88	,88

Therefore the data presented in the table above appear under the criteria of normality representative data fit to be an analysis of variance.

7. TESTING ASSUMPTIONS ON THE CONDITIONS INFLUENCE INVESTMENT PERFORMANCE OF SICAR

This section tests the assumptions described in previous sections. In other words, this is to establish whether there is a direct effect of specific variables on

investment returns in the output phase of the venture capitalist.

These variables are summarized in the overall investment volume and the volume of investment reserved for projects located in regional development areas. Besides the effect of these variables global order, this section aims to assess the impact of the development stage and sector of activity of enterprises financed by the SICAR performance.

Finally, the effects are studied general variables: affiliation and age of corporate SICAR.

7.1 Direct Influence of Global Investment Conditions

Assumptions made in the first section (IV.2.1) are intended to verify a direct link between the range of overall investment volume available to the SICAR and the realized return. There are several studies that have been able to verify the hypothesis of a direct link between the investment and return on venture capitalists. Bergemann, Hege, Casamatta, Cornelli and Yosha (2002), shows that the importance of invested funds, the development of the financed enterprise and the development of the industry may affect the performance achieved.

To determine whether a relationship exists between the conditions and the overall investment performance, analysis of variance was performed. A univariate analysis of variance (ANOVA) was conducted on each response indicator in order to study more precisely what is the impact of the investment on profitability.

7.1.1 Influence of Volume of Total Investment (H1 and H2)

- H1: Effect of volume of investment performance achieved.

		Dependent variable: return earned			
		ddl	F	sig.	R ²
Level of investment		24	3.879	0.008	97.4%

According to the results provided by the table above, we note that the asymptotic significance is equal to 0008 less than 0.05.

Hence the null hypothesis is automatically rejected. Therefore, our hypothesis H1, of the dependence between the volume of investment and the required return is accepted.

Conclusion: The volume of investment influences the performance achieved.

7.1.2 Industry of the Business Financed

- H2: Effect of the business of the financed company on the realized return.

		Dependent variable: return earned			
		ddl	F	sig.	R ²
Activity sector		18	3.614	0.009	80.2%

From the table above, we note that the asymptotic significance is equal to 0009, it is less than 0.05. So we reject the null hypothesis of independence. We can thus confirm our hypothesis is plausible.

Conclusion: the industry influences the performance achieved.

7.1.3 Developmental Stage of the Financed Business

- H3: Effect of developmental stage of the financed business on the return realized.

According to the chart below, we note that the asymptotic significance is equal to 0460, it exceeds 0.05. So we accept the null hypothesis of independence. We can thus confirm our hypothesis is plausible.

		Dependent variable: return earned			
		ddl	F	sig.	R ²
Stage of development		18	1.134	0.460	74.5%

Conclusion: the stage of development does not influence the performance achieved.

7.1.4 Conclusion on the Assumptions of Direct Influence of the Investment

It appears from this first set of analyses that the possibility of a direct investment conditions over the conduct or the requirement of a positive result is strongly questioned. Indeed on a series of three assumptions only two of these could not be rejected.

After a series of univariate analysis of variance, the two statements at the time of the analysis could not be excluded are:

- The overall investment volume significantly influences the performance achieved;
- The business significantly influences the performance achieved.

Besides the fact that these results suggest a direct relationship between the volume of funds invested and the return of the SICAR's output, these results suggest a fortiori that there are promising sector for venture capital companies which invest for successful investment.

This is in line with the concerns of professional venture capital that we met in the context of this thesis and which prefers industrial companies primarily in the acceptance of funding. This means that to ensure a high efficiency the choice of sector of activity and volume of fund investing is paramount. This suggests that to understand the nature of this influence, we must also take into account other variables.

7.2 Direct Influence of the Investment in Regional Development

The second set of hypotheses concerns the verification of a possible direct link between investment in regional development areas and the return earned by venture capitalists.

However, the authors fail to confirm the positive effect of investment in regional development zones on the performance achieved at the exit. Within the meaning of Frederic Palomino and Armin Schwienbacher (2003), diversification in the portfolio of venture capitalists improves performance at the exit. This is also what has been thought Black and Gilson (1998) and Hellmann and Puri (2001), which showed that the decentralization of investment improves the outcome of the exit of venture capital.

However, the analysis of the effect of investment conditions specific to regional development zones on the performance achieved is interesting and educational.

Also as part of this thesis, beyond the study of the effect of general conditions of investment, it is necessary to study the importance of the involvement of venture capital companies in the sphere of regional development funding on achieving good results at the output. In other words, the study of the effect of financing projects located in regional development areas by the VC is central as it enters the search for balance between the regions and encouraging Funding for these projects and to promote financial decentralization, which is the central issue of this thesis.

The analysis of the effect of investment in regional development areas will be done in several stages corresponding to the four assumptions made in the previous sections.

7.2.1 Volume of Investment For Regional Development

- H4: Effect of the volume of regional development investment performance achieved.

According to the chart below, we note that the asymptotic significance is equal to 0.002, it is less than 0.05. So we reject the null hypothesis of independence. We can thus confirm our hypothesis is plausible.

	Dependent variable: return earned			
	ddl	F	sig.	R ²
Industry funded firms	25	4.678	0.002	98.2%

Conclusion: the volume of regional investment influences the performance achieved.

7.2.2 Industry Funded Firms

- H5: The effect of industry funded firms on the performance achieved.

	Dependent variable: return earned			
	ddl	F	sig.	R ²
Industry funded firms	17	4.442	0.001	83.8%

The results generated by analysis of variance show that the meaning asymptotic is equal to 0.001 < 0.05.

Hence we reject the null hypothesis of independence between the activity sector of funded companies and the required return. This leads to accept our hypothesis H5.

Conclusion: the activity sector of funded companies influences the performance achieved

7.2.3 Development Stage Companies Financed

- H6: Effect of development stage companies funded from the returns earned.

	Dependent variable: return earned			
	ddl	F	sig.	R ²
Development stage companies funded	20	1.034	0.539	80.5%

We see from the results of the Fisher test that the asymptotic significance is equal to 0.539 and greater than 0.05. Hence we accept the null hypothesis of independence. Therefore, our hypothesis H6 dependence is reversed.

Conclusion: There is no positive relationship between the development stages funded companies and the required return.

7.2.4 Geographic Location Of Financed Companies

- H7: Effect of geographic location of businesses financed on the realized return.

	Dependent variable: return earned			
	ddl	F	sig.	R ²
Geographic location of the companies financed	20	0.741	0.715	79.6%

We see from the results of the Fisher test that the asymptotic significance is equal to 0.741 and greater than 0.05. Hence we accept the null hypothesis of independence. Therefore, our hypothesis H7 dependence is reversed.

Conclusion: There is no positive relationship between the geographic location of financed businesses and the required return.

7.2.5 Conclusion on the Assumptions of Direct Influence of the Investment in ARD

In summary, the results show that the financing of projects in the ARD has an effect on the performance achieved by the venture capital companies. The investment volume reserved for companies in the ARD influences the performance achieved.

The industry funded firms in the ARD have a strong influence on the realized return (F = 4.442). This effect had already been suggested by Aghion and Tirole (1997).

However the development stage of financed companies has no effect on the performance achieved. This is because companies based on the ARD are young small, and homogeneous. On the other hand there is no positive relationship between the geographic location of businesses financed and performance SICAR.

In conclusion investment in regional development areas influences the performance achieved with the released date.

7.2.6 Influence of Age and Affiliate of SICAR

In accordance with what has been said about the influence of the global investment and the effect of investment in ARD, it is likely that in the following lines, age and affiliation of the SICAR's companies have effects on the performance achieved.

In the sense of Aghion and Bolton (1992), Dewatripont and Tirole (1994), Aghion and Tirole (1997) experience of the company and its sources of funds may affect the performance of venture capitalists.

- H8: The effect of age on corporate SICAR performance achieved.

According to the chart below, we note that the asymptotic significance is equal to 0.002, it is less than 0.05. So we reject the null hypothesis of independence. We can thus confirm our hypothesis is plausible.

	Dependent variable: return earned			
	ddl	F	sig.	R ²
Age of VC societies	20	4.678	0.002	98.2%

Conclusion: The age of corporate SICAR influences the performance achieved.

- H9: Effect of affiliate SICAR's companies performance achieved.

According to the chart below, we note that the asymptotic significance is equal to 0.001, it is less than 0.05. So we reject the null hypothesis of independence. We can thus confirm our hypothesis is plausible.

	Dependent variable: return earned			
	ddl	F	sig.	R ²
Affiliate of VC companies	21	6.678	0.001	85.2%

Conclusion: the affiliation of companies SICAR influences the performance achieved.

Thus it appears that the age of the SICAR has a strong influence on the performance of the output and membership. The majority of the SICAR are subsidiaries of bank; the positive effect of membership reflects the practices of the SICAR akin to banking practices.

7.3 Synthesis

The main conclusions from this series of analysis is that there are practically more decision factors that influence the performance achieved by the venture capital company main objective is participating in the financing. The investment volume is the first important factor in achieving profitability. The industry and the stage development of financed companies have an effect on performance in relation to the first notion of a growing industry and for the second depend of failure for the company in the launching phase.

Finally it should be noted that after this analysis, taking into account all these factors in the decision of project funding is crucial for achieving the desired result through this participation.

The number of projects during the year 2008 allocated a rate of 60% for projects in development and 40% for projects in extension.

In terms of realization of the amount distribution, 40% for projects in launching phase and 60% for projects in extension.

Hence the large number of projects in development (60%) with low amounts granted (40%) is explained by the orientation of the SICAR to finance small projects with added value.

7.3.1 The Issue of Performance

The investment of venture capital, as indicated above, based mainly on the participation of equity for companies in need for a definite period and that to achieve a capital gain on exit. Given the importance of performance for these organizations to venture capital, it is perfectly legitimate that this issue is at the forefront of their concerns.

Our goal in this research is to determine and analyze the variables that explain the performance and on what the venture capitalist can act to improve performance and achieve its objectives, among other things a profitable exit.

From the perspective of venture capital, investment in a project like taking a stake in the company (starting or developing) in t_1 and t_2 resell (release date of the operator). The possibility of an ongoing evaluation of the activity, particularly from specific skills accumulated at this stage depend mainly on intangible elements (skills, networks, patents,¹⁶ and hardware (investment volume, stage development ...) these elements are essential to the project and the successful output.

To explain the significant impact of investment in regional development areas we returned to the statutes governing the investment of the SICAR in ARD.

Project financing by venture capital is encouraged by the Tunisian public authorities (State) and more specifically the financing of projects installed in the ARD and those with financial and tax advantages granted to this

type of financing. Thus the tax exemption and reduction of charges incurred by the SICAR and the granting of various bonuses to the accompaniment of investment will naturally have the effect of creating an enabling environment and producer of performance.

Menville, 1997, states that "the quantitative measurement of a link between two variables does not indicate the existence of a relationship of direct cause and effect, nor meaning of this possible relationship. In this case, there is no evidence here of a relationship uniquely determined between investment in venture capital and the return earned by the latter, and for investment in the ZDR and the realized return .

The analysis of the U.S. system, according to J, Bessis (1988, P214) shows that "the American experience confirms the UK assessment: the venture capital financing is not the development of the region but rather the reverse".

Does regional development make the development of venture capital or does venture capital make the regional development?

Financial decentralization and the financing of SMB in equity are combined to boost the concept of regional development.

The results of our study are statistically significant and satisfactory, but the activity of the SICAR appears subject to a set of important constraints as well as high risk.

In our study we saw that the participation of SICAR is aligned to that of FOPRODI, alignment with the objective of strengthening the supply of equity to projects, thus increasing the probability of project success and therefore minimize risk of loss of SICAR while FOPRODI intervention focused on new promoters, which directs the SICAR to the creation in which the failure rate is naturally high.

Pascal Gendreau (July 2008) in his report "study mission on the equity financing of different life stages of the Tunisian company" believes that the emphasis is put on the role of the SICAR in entrepreneurship which amounts was so excessive to delete the requirement for intervention with the participation of the SICAR FOPRODI.

The participation of the RITI is necessarily associated with participation in an amount at least equal to the participation of a SICAR and is dedicated to innovative projects in the field of information technology.

The associated participation of the SICAR and RITI encourage developers and strengthens the financial resources of a company but limiting the scope of

¹⁶ Criteria for the intervention of venture capital: Presentation of conditions for entry into an innovative project, based on real options, Christian Poncet, Department of Economics. IFC4 2007 Tunis conference. p2

intervention of the RITI a results in low competitiveness of RITI and SICAR and taking into account the very limited number of records of innovative quality (project cost with minimum risk of failure). As the same report cited above, shows these conditions confine the scope of intervention of RITI and therefore the scope for SICAR intervention.

To improve the effectiveness and efficiency of the association's participation to that of RITI and SICAR must expand the areas in the RITI to all innovative technologies to expand the scope of SICAR intervention.

In addition to the constraints of the specific activity of the SICAR, the regional development program includes in itself the major constraints and difficulties that block the integration of venture capital as a model of financing in the regions. These constraints are structural and organizational.

Without developing an overall strategy, there is no representation of knowledge and common regional problems and ways to treat them in a certain temporary horizon (RALLET Alain, 1995). Venture capitalists may select investment projects according to criteria that are not covered by a comprehensive development strategy but of diverse opportunities and reasons which leads to various risk of loss of funded projects.

On the Tunisian territory there is a multitude of industry summarized in four main sectors: industrial, service (including tourism and hospitality), agricultural and others (craft activities, trade ...).

The importance of these sectors differs from one region to another. Confirmation of the relative importance of the industry of "social services and administration" has not affected the central and south-east. The expansion of trade has been generalized to all regions except the Southwest. The decline of the "textile and leather" has affected the regions of western countries (GHARBI Mr. Najib, 2005).

Clearly identify the preferred locations of the branches of activity by region, as well as the differences between those activities are more evident between the coastal and inland.

The inside of the countries is not only less industrialized but has also proportionally less catchy activities capable of stimulating a process of regional development (GHARBI Mr. Najib, 2005).

In this regard the venture capitalist is asked to diagnose and determine the characteristics of each region in order to invest in projects this is good as well for the entrepreneur, venture capitalist and the region itself (in terms of rate unemployment, dynamics of economic activity ...). Moreover, it remains a lot to be done in regional development.

In the case of Tunisia, two powerful institutional characteristics tend to lock the path of regional development: the domination of a problem and an overly sector administrative economic role of the state. To solve these problems it is required to define sector development priorities and translating them into investment project by taking a regional and national arbitration (RALLET Alain, 1995).

To develop the regions we should develop areas that are in the regions, and the role of local authorities in the coordination of regional development is now marginal in Tunisia (RALLET Alain, 1995).

Regional development requires the development of generic resources and the building of specific resources.

Improving intervention in areas SICAR is based on elements of the external environment of the venture capital company as well as elements specific to the internal environment of the business of venture capital among these elements we cite: the stage of investment, investment conditions, the output mode.

7.3.2 Tax Benefits

On taxation SICAR receive a tax exemption of up to 100% at the entrance.

Pascal Gendreau (2008) in his report on the activity of the SICAR in Tunisia shows that some number of SICAR would not have seen the light in the absence of this tax benefit, and therefore some SICAR were created in a To optimize tax (SICAR bank).

The tax benefit is related to an employment threshold of 65% of funds to be used in projects located in areas of regional development and ICT. The use of funds must be certified at the end of the year following the liberalization of capital or making funds available to the SICAR.

For tax benefits are limited by the SICAR within one year for the use of funds which is considered very short for companies to have SICAR investment conditions to end well studied to minimize risk of loss, the other side, and as shown in the report of Pascal Gendreau (2008), the absence of sanctions by the loss of this benefit in the event of a breach of the threshold for the tax benefit.

7.3.3 Exit Options

The output of the SICAR, as we mentioned before, is usually an exit to the promoter and it is virtually the only available option to SICAR by the requirement to pass an agreement with the developer without retrocession prevent free outputs (stock market) but in part against the law provides benefits to promoters to oppose the free outputs.

Thus solving the problem of output SICAR must go through the replacement of retrocession agreements by shareholders' agreements, which will continue to provide for the possibility of surrender to the promoter, this possibility gives an alternative output to SICAR therefore offer opportunities for greater profitability in accordance with the work of Black and Gilson (1998).

8. CONCLUSION AND IMPLICATION

Our paper aims to examine, first, the venture capital environment, especially the Tunisian investment environment in regional development areas, and secondly analyze the performance achieved by these companies. The methodology is based on a sample of 26 companies SICAR, from the operational variables on the basis of accounting data. A descriptive statistical methodology has been implemented for this purpose. At this level, the methodological choice, no doubt, materially affect the empirical analysis.

We divided our sample into two groups of firms depending on whether the financing is of global or regional development areas. Our results show a significant return on investment in companies located in areas of regional development

Subsequently, we used the ANOVA method, based, to study the overall relationship postulated by the conceptual model of this article.

Our empirical results from estimating the model by the method of analysis of variance showed a direct relationship between the range of overall investment volume available to the SICAR and the realized return, which supports the hypothesis of importance of investment volume of Bergemann and Hege (2002) and Casamatta (2002) and Cornelli and Yosha (2002)

Regarding the influence of investments in regional development zones, our results show that the volume of investment reserved for companies operating in the AOR influences the performance achieved which is consistent with the assumptions of Pascal Gendreau (July 2008) and Frédéric Palomino and Armin Schwienbacher (2009).

However, it increases due to the increase in the proportion of shareholdings in companies financed. However, performance is not affected by the geographic location of funded firms (first, second or priority group).

Finally, it should be noted that it is thus clear that the age of the SICAR and membership have a strong influence on the performance achieved by the venture capitalist to the release date.

It is recommended in this framework:

- Building an economy on solid ground where the labor market responds to

requests skills, graduates and projects in which high ratios are able to innovate and compete internationally.

- Give importance to the SICAR involved in regional development areas and give special status to organizations regional venture capital inside the device support to venture capital, where the financing of the creation and development business.

SICAR participation in financing projects located in areas of regional development is important both for itself, in their goal to obtain a return, and for companies which have a vested equity financing.

After the revolution the doors are open to private initiative, public power and finance companies including venture capital firms to bring together the efforts for a better regional development which will affect all regions from inside.

The SICAR Tunisian face, as is the case in the French market, constraints on their own (agency problems, asymmetric information, adverse selection, illiquid securities and difficulty recovering) and other constraints specific to the external environment.

The agencies problems, adverse selection and asymmetric information deprive companies of venture capital investment opportunities due to the rejection of carriers or to supporting additional costs as the costs of agencies.

The output of the venture capitalist is limited by the retrocession agreement, which legitimizes the porting by presenting it most often as the only real exit option which offered to SICAR, which leads to low profitability as the SICAR have no capital gains for successful business. Porting deprives SICAR free outlets other than sale to the developer.

To enable the SICAR to realize a capital gain covering the risk brought by the latter, the retrocession agreement must disappear and be replaced by shareholder agreements and let the SICAR to research open outputs when possible

Tax benefits are designed to encourage the SICAR to invest in practical benefits but there are SICAR that are created for tax optimization and not to capital investment as the case for bank SICAR.

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