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Dynamic Capabilities and Option Thinking for a Spectral Portfolio Management: The Case of Alternative Investment Funds in Romania

Mircea Boscoianu[1], Costel Ceocea[2]

[1] Transilvania University of Brasov, Romania, boscoianu.mircea@yahoo.com
[2] "Vasile Alecsandri" University of Bacău, Romania, cceocea@sifm.ro

***Abstract**: Even if the macroeconomic indicators are impressive, and the individual performances of the companies selected by MCSI are very good, Romanian capital market is still a frontier- market and investors are still waiting for the signal toward the status of emerging market.*

The good news in Romanian capital market are related to the emerging interest in alternative investments and Alternative Investment Funds (AIF). After decades of indicial management, the mutual fund market is ready to engage in other strategies that could offer a better profile of performance- risk- liquidity triangle. Fund managers are open now for innovative architectural configurations and the portfolio managers try to adapt their instruments to this trend. In addition the new configurations could offer sinergies with co-investments, public- private partnerships (PPP) and the expansion via retail. The actual interest of investors oriented toward superior long- term returns will contribute to the process of closing financial gaps, the growth of th einterest in innitial public offerings IPO, with direct impact on the development capacities of Romanian capital market.

Alternative investments via AIFs (both closed- end and open- end investment funds) are still limited and only recently authorized (2017-2018), but they prove profesionalism and transparency, together with real capabilities to exploit the market opportunities and to control the risks. Romanian AIFs demonstrated that portfolio managers understand the reallities in the market and flexible adapt their strategies to offer performance and stability

These trends could benefit by the governmental support regarding the developmnent of the alternative investment culture, the acceleration of the specific regulatory infrastructure, the institutionalization of specific processes, public- private partnerships PPP and retailization.

AIFs could benefit from the actual context and could also offer new paths in the development of Romanian capital market, with capacity to build buffers of liquidity and automated natural stabilization of segments of market and also a robust impact on the capacity to finance projects in the real economy. AIFs could also contribute to the market discipline and the operational practices.

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In a frontier-capital market with low liquidity and a lot of opportunities but also frictions, the managers should also integrate the new concept of spectral portfolio management, represented by a set of rotating sub- portfolios that activate around a core stable sub- portfolio. In this case it is possible to capture the spectral dynamics that characterize frontier capital markets, with the interactions betwen a rigid or innactive central portfolio and the set of active sub- portfolios with styles of management (hedge fund style, private equity/ venture capital fund style).
Fund managers and especially portfolio managers try improve their performance together with the qualitative elements in their serch for a robust alpha- Jensen. In this case, we propose a second contribution to the art of portfolio management in frontier/ emerging markets, regarding the integration of the new concept of dynamic capabilities as a paradigm for portfolio strategic management together with option thinking (real options on sub- portfolios), as a paradigm for tactical portfolio management.

***Keywords**: alternative investment funds AIF; spectral portfolio management; frontier-capital market; emerging markets; knowledge- based economy KBE; dynamic capabilities for portfolio management (DCPM).*

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I. Introduction

The dynamics of the Romanian capital market stands at the confluence of multiple processes (the new impact of emerging economies, the new paradigm of demographic changes, legislation reforms) which could contribute to the transition toward the status of emerging market. The portfolio management in the case of Romanian alternative investment funds is presented in only very few contributions, usually focused on conventional methods that does not cope with the characteristics of a frontier-market. The processes are complex in the actual context of competition and our contribution is in this case related to the concept of spectral portfolio management, where the performances (risk- return- liquidity) are also matched with qualitative aspects (variations in liquidity and volatility, robustness to different types of shocks) in a natural expression. In this case there are two interesting paradigms namely, the dynamic capabilities paradigm DCP, a qualitative one, and option thinking paradigm OTP, a quantitative one.

The growth of the investment alternative industry was determined by technological developments, adaptability to changes (especially in regulation) and better capabilities of matching the interests of entrepreneurs and investors in their search for long term returns. The industry of alternative investment is nowadays better integrated in the financial system and the real economy proving robustness to shocks and turbulences. This is a key aspect that results from understanding the business model applied to AIFs and the new characteristics of the products offered by financial intermediaries, in a longer term context.

In addition the openness toward alternative investments will contribute to the growth of liquidity in the capital market and the stability of financial system. The reforms for a better functionality of type capital market will be materialized also in efficient long term financing and also new perspectives for the pension funds regarding their long term returns. The interest is now to develop the infrastructure and transparency, in a period in which the entry barriers could reduce innovation.

The institutional investors are focused on growing the performances together with a better efficiency of investment capabilities. In this effort toward performance and quality, the alternative investments could open new opportunities and capabilities to access an extended range of alternative investment products. The aim is o enhance

trust, the level of institutionalization and a re-focus on retail in order to growth the mass of managed assets. Retailization is important for Romania in the context of the objective to access to emerging market status and it is also feasible in the actual context of a good infrastructure of distribution channels.

The changing paradigm comes not only from the type of the markets, but also from the models of governance and their dynamics; the changing of business models determine the change of financial relationships and on the supply side we assist at a greater sophistication of investors that imply dynamic capabilities to permanently optimize the basic mechanisms of alternative investments (hedge funds HF, private equity funds PE/ PEF, venture capital funds VC/ VCF, real estate and infrastructure). Next, the other necessary change is in portfolio management which is now better focused on targeting the market opportunities (typically, in an illiquid market the windows of opportunities are thinner and the reaction is higher) and a better control of risks on specialized segments. Beyond the enhanced ability to manage portfolios of different type of alternative assets, fund managers are now prepared to engage complex strategies and partnerships (with conventional investment funds or other financial intermediaries) in order to expand their activities on retail zone (this aspect is in contradiction with the tendency to specialized the objective of different types of investment funds but it is essential in enhancing the national culture on AIF investments).

In the actual configuration the focus is on the developing the direct investment capabilities, but in the future, we should take into account the co-investment capabilities with mechanisms that consider the support of AIFs together with public-private partnerships. In this case there are better selection possibilities and the risks could be reduced via the alignment between the parties and the control of adverse selection.

II. Mechanisms and typical contributions of alternative investments in frontier and emerging markets

In order to understand the differences offered by a frontier market, in the art of portfolio management, this section presents typical mechanisms and possible contributions of alternative investments and alternative investment funds in the case of frontier and emerging markets. Alternative investments could contribute to the development of these two categories of capital markets not only by the implications of the brand of global financial funds, but also via mechanisms of supply of liquidity, the building of special capabilities to develop solutions and financial innovations, and also to build robustness in supplying long term capital, a better spectrum of the control of risks, and reducing costs via efficiency and scale effects resulted from flexibility. In the real economy, alternative investments stimulate competition, innovation and contribute to the creation of new jobs. In addition they contribute toward a better efficiency of corporate governance via reducing the agency conflicts and by productivity they contribute to the GDP growth.

The recent discussions in a meeting dedicated to the development of AIFs in Romania (Bacau, April, 2019), with 10 specialists in investments funds and 10

portfolio managers and capital market practitioners revealed some important results for the importance of alternative investments and the management of AIF portfolios in the case of frontier/ emerging markets.

1. Motivation and sources of valuing alternative investments

The sources of valuing alternative investments are based on processes like: the identification of opportunities, the efficiency of the selection process, financial engineering ingredients (optimization of financial instruments and structures, risk management), the understanding of optimal timing (momentum identification), leverage, active alignment capabilities of the interests of investment managers with firm managers, risk management solutions of investments and operations.

2. Aspects regarding the impact factors and elements for stimulating alternative investments in frontier/emerging markets

The future of alternative investments in Romania is influenced by a set of macroeconomic factors like:

- the growing interest for frontier and emerging markets could offer better investment opportunities:
- the dynamics and evolution of social and demographical systems imply a reconfiguration of pension systems (including new products capable to offer better returns and a better control of long term risk)
- monetary policies determined lower interests and higher P/E aggregates

3. The management of opportunities

We consider the macroeconomic trends responsible for the following changes and opportunities:

- a better mobilization of resources of capital in order to target the superior returns, that grows the demand for alternative investments;
- the actual business models are reconfigured in the new competitive environment, with impact on the change of the relationships with fund suppliers;
- there is a new window with investment opportunities that determine the opening of new markets for investment with superior perspectives of performance and quality;
- the impact of technological transfer could be better understand and managed;
- the alternative investment solutions could also contribute to the development of the Romanian capital market, together with the accession to new status of emerging market.

III. The continuous building of alternative investments in the context of changing regulation, the institutionalization and the race for retailization

Regarding the new path of alternative investments in Romania, we can see the following trends:

- the agglomeration of regulatory initiatives (Basel III/ Capital requirements directive, Markets in financial instruments/ MiFID II, Alternative investment fund managers directive/ AIFMD, Undertakings Collective investment of transferable securities/ UCITS) for growing transparency, the creation of efficient infrastructures, the flexibilisation of financial contracts and relationships and the growth of the interest for capital markets
- a new role of institutionalization in investment strategies could contribute to externalization and the growth of the importance of alternative investments in the Romania society
- the change of the mix of factors expressed by a better access and the change of investment scale, the understanding of lesson learned in other (similar) markets, the growth of the interest for alternative investments, demographic changes and implications on labour markets
- the potential performances offer by alternative investments could encourage the growth of internal capabilities (internal teams capable to invest directly in specialized deals, capacities of experimentation, methods for better access at markets/ financial products); in addition we can attract specialists, researchers and academia in order to analyse future strategies
- there is a special interest from institutions to create new vehicles of investments inspired from AIFs with a focus on extending the types of investors
- the vision oriented toward PPPs and retailization development, focussed on liquidity, efficiency and lowering accession costs.

The evolution of the culture oriented on alternative investments is based now on the business models transformation and a better access to alternative financing by negotiating new partnership relations. In this analysis we can decipher the emerging trends of change, essential in the design of the new global picture of alternative investments in Romania:

- the speed of transformation of business models is determined by the strategic thinking/ the quality of strategic options, institutionalization, the acceleration of openness to retail investors (as a critical component of education and learning) with an interesting impact on the change in competition
- the transformation of relationship investment/ financing models is determined by managers and change the type and the structure of financing contracts
- the growth of importance of retail segment is a reality but it is not yet fully understood as a critical part of capital market development;

- in this general strategy of retailization we should consider also the possibilities to develop distribution channels and also to understand the impact of de regulation processes.

IV. Case study: the managerial performances of Romanian closed-end AIFs

In the late 2017 the investment fund managers in Romania began their authorization as AIF- administrators (AIFA). This authorization is not a major change in the behaviour of fund managers, because the regulation according the different type of products, but it naturally contribute to the diversification of the products offered by each investment administrator society in the context of MIFID2.

In this moment there exists *290 k* retail clients that utilize national investment products, comparing to *59 k* stock- exchange transaction accounts (only *10 k* active accounts) but the focus of clients is still on monetary and bond funds. After the global financial crisis, characterized by an orientation of clients on bond funds, the dynamics of interest rates determined an impressive evolution of the performances of equity funds (still at the phase of indicial benchmarks or benchmarks oriented on financial and energy sectors). In a frontier or emerging market, the quality aspects represents a very important attribute (in this case we are talking about volatility, liquidity, resilience at shocks) and the portfolio management should be better adapted to the real market conditions, with few but sophisticated investors that search opportunities for return and active portfolio strategies.

AIFs are vehicles for long term investors and could engage a different design of portfolios compare to the conventional open- ended funds, that should take into account the pressures of possible massive sales; this aspect is even more interesting in the case of frontier markets, characterized by illiquid assets and higher volatility. In the case of close- end funds the interest is to flexible adapt the windows of opportunities expressed by new release of blocks of units of funds. AIFs could be in this case better focused on project and portfolio management with impact on returns and stability of projects. The new types of investments (real estate, agriculture, infrastructure) together with PEFs/ VCFs and PPPs should provide stable, constant lines of long- term capital. In this case, AIFs contribute not only to the development of the capital market as alternative to financing but they also could implement strategic investment projects for a decisive accession to the emerging market status. AIFs could also contribute to the sustainable development, with an extended benefit to the society.

From the organizational point of view, the transformation of closed- end funds in AIFs does not imply major modifications because the control of ASF and the legislation make possible a natural process of evolution. The past performance in the bond, equity, or mixed portfolios confirms a good potential in the future, especially in the context of a critical need for funds in infrastructures, agriculture, real- estate, local start-ups. AIFs represents in this case a natural alternative of evolution of the local asset management sector.

In order to offer a global image of the performances of Romanian SIFs, in Table 1 is presented a comparative analysis of the basic indicators of performances for the period 2016- June 2019, based on 4 sets of data (30/12/2016, 30/12/2017, 30/12/2018, 30/06/2019) including: the unitary net asset value UNAV (there are differences according to the evolution of their capital), market price, the discount applied to UNAV* (expressed in %), the unitary liquidity U-Liquidity (expressed in % because it is an unusual indicator that offer a good image only in this manner of presentation).

The unitary net asset value UNAV is an indicator that reveals important dynamics and there exists a correlation with the market prices in the context that the actual discount applied to UNAV is smaller than in the near past (in the case of SIF1 and SIF4 there exists a spectacular discount apply to UNAV situated around 60% in the context of better portfolio allocations comparing to 2016). UNAV should be analysed together with the structure of portfolio (listed vs non- listed shares, sectors) and the indicators of immediate liquidity like U-liquidity. In the case of SIF5 the unitary liquidity U-liquidity (expressed at U-NAV) was 25,7% at 30/12/ 2018 due to the exit from Erste Bank, an opportunity that was not recognized by the results by the market. Regarding he price SIF2 is still the champion of the performance with a performant portfolio oriented on TLV but in a context of narrowing the discount apply to UNAV 2019 which is situated at 28,8 %.

The main aspects that we should consider in the modern portfolio management of AIFs should consider:

- a better understanding of the evolution processes in the case of frontier market portfolios, together with a new paradigm of collaboration with governmental institutions, academia and research;
- a better understanding of the conditions for acceptation of a new asset/ sub-portfolio based on the trade off long term - short term;
- the new methods for portfolio optimization should consider new paradigms beyond the classic one; in this case Industry 4.0 will integrate new decision models based on artificial intelligence and new HMIs (human- machine interface);
- a better understanding of the dynamic aspects in portfolio rotation inspired from the factorial investment paradigm (August, 2014) with assets regarded as sets of factors and risk premia (evaluation, capitalization, momentum, liquidation, volatility) together with their implication in portfolio risk management;
- the integration of possible energetic aspects in the active portfolio management (reallocation costs, costs associated to the liquidation-reinvestment cycle, opportunity costs, costs associated to the preference for quality);
- the management of portfolio risk management should balance the risk allocation (the set of approaches for building portfolios with risk selection adjusted by the global risk of the portfolio) and the risk parity (focussed on understanding the contributions of assets at the global risk of the portfolio).

Table 1. A comparative analysis of the performances of Romanian SIFs (2016, 2017, 2018, June 2019)

	SIF1	SIF2	SIF3	SIF4	SIF5
UNAV	3,71 5,00 4,28 **4,84**	1,55 1,80 1,74 1,91	0,42 0,44 0,45 0,46	1,46 1,70 1,61 1,78	2,58 3,05 3,17 3,60
Market Price	1,82 2,77 2,04 2,2	0,78 1,41 1,21 1,36	0,25 0,24 0,21 0,26	0,65 0,98 0,60 0,63	1,62 2,18 2,085 2,10
Discount apply to UNAV* (%)	50 45 52 57,9	50 21,5 31 28,8	40 45 52 43,5	55 42 63 **63**	37 28 34 38
U-Liquidity**(%)	2,8 3,13 1,6 -	2,5 2 4,3 -	2,9 3,8 2,7 -	2,4 1,53 2,31 -	0,9 0,17 **25,7** -

V. Innovative architectures for a spectral portfolio management: the flexible adaptation of Alternative Investment Funds by using dynamic capabilities and option thinking

The interest of this section is to propose a new way of understanding the portfolio management in the case of Romanian AIFs (Alternative Investment Funds, in principal the so- called Romanian SIFs). In the case of a small capital market with poor liquidity, the market mechanisms are different, distorted by a large spectrum of market inefficiencies, and in this case the theories of portfolio management are not fully applicable.

In order to implement other paradigms and instruments is essential to offer a global image of the possible strategies for integrating different styles of sub-portfolio management in the case of Romanian AIFs. Their portfolios are characterized by a significant rigidity, but they are diversified in different sectors and types of assets, in the context of the actual national regulation. The portfolio managers could not obtain sustainable extra- returns (the so called alpha- Jensen is difficult to interpret) in the actual capital market context and a possible strategy to improve the performances could be anchored on qualitative aspects like portfolio resilience (tested in the context of OUG 114/2018), and the flexible adjustment of the sub- portfolios according to the thin windows of opportunities offered by the frontier-type market.

The attraction of alternative investments in frontier/ emerging markets should be analysed from the perspective of the integration with global markets and the associated risks (systemic risk, currency risk), barriers of investments (liquidity,

political instability, informational asymmetry, constraints regarding transfer of funds, uncertainties regarding taxes).

Taking into account the growing interest for alternative investments in Romanian capital market, we expect an accelerate transition toward emerging market status, based on synergies between the perspectives for a better efficiency and the capabilities to improve the thrust of foreign investors. We should also remark the importance of selection of priorities to development alternative instruments, an essential element in the process of convergence, in catching up the European developed markets.

The concept of direct investments is associated to the existence of significant investors/ significant transactions, equipped with a complete set of internal investment capabilities and with a delimitated set of policy, legislation and special dedicated elements for taxation. For frontier and emerging markets the focus is now on the power and consistency of co-investments (PE/ PEF, VC/ VCF, special vehicles for real estate or investments in infrastructures) in partnerships that offer a better access to financing schemes and characterized by selection via competition (this is an important element for Romania). The delegation of decision making process to investment managers offers an externalization of the most difficult steps of the investment cycle, together with flexibility and efficiency. In this case, the benefits result from the fact that constraints are limited. In the case of AIFs in frontier and emerging markets it results a set of significant differences at functional level, barriers of access and specific costs resulted from scaling and monitoring activities, that represents frictions on the development of these innovative solutions. We note that elements like brand, technology and digital distribution could contribute to the development of AIFs in a dual advantage with the Romanian capital market.

Romanian AIFs are exposed to inefficient markets and performance management is very difficult to understand. Portfolio managers are restricted to contracts oriented to different benchmarks, without using qualitative elements. In the actual context the managers try to integrate a new set of alternative investments. In frontier markets the dynamics of portfolio movements should consider the multispectral flexibility that expressed by the following elements:

- a new tendency for aggressive allocation of the new assets and a better tactical allocation, with significant restructuration and timing interventions;
- the interest to implement the emerging academic research with new models and solutions, better adapted to the frontier market characteristics;
- the use of *first mover advantage* from the anticipation of long term trend (real option paradigm for understanding the rotation of sub-portfolios);
- a better understanding of the liquidity risk (in the context of financial leverage the problem could be more difficult);
- the use of specialists on different types of alternative investments);

In the search for flexibility, AIF managers could use the paradigm of sateliar sub-portfolios around a central stable sub-portfolio, build on quality assets. The objective is to beat the market portfolio by using the active management. Satelitar sub-

portfolios are built in order to obtain better returns with lower costs and volatility. These sub-portfolios are smaller than the central sub-portfolio but the management is more dynamic, beyond a simple rebalancing. The use of satelitar sub-portfolio paradigm in the active management of Romanian AIFs does not exclude the use of other methods and the integration of portfolio management decisions based on artificial intelligence.

We present now different architectures for portfolio management that could be captured in Romanian AIFs. The image of portfolio management is simplified by an intuitive representation of the portfolio management process, as a set of rotating sub-portfolios around a core stable sub- portfolio. In this representation it is possible to separate the rigid or inactive part of portfolio from the set of active sub- portfolios and their style of management. This analysis of the different styles of sub-portfolio management (hedge funds, private equity funds and venture capital funds sub-portfolios) could bring important ideas for the portfolio management of the Romanian SIFs.

1. Hedge Funds sub-portfolios (HF-SP)

The hedge-fund (HF) concept was firstly utilized in order to suggest the hedging operations against the risk, by developing a special long- short portfolio but in operational management, hedge funds represent a reference style of dynamic portfolio management based on a set of complex investment activities that actively adjust the momentum deviations according to the correlations between markets.

In the actual context of the developing strategies based on artificial intelligence algorithms and techniques, HFs represents not only private investment vehicles dedicated to a special category of golden-league refined investors because modern dynamic portfolio management is scalable in the context of mutual fund industry development. The complexity of risk control derivative instruments (based on short-selling and leverage) together with the transaction strategies on different markets are supported now by the force of artificial intelligence that dominate the Industry 4.0 paradigm. In the case of frontier-and emerging markets this development is even more important because of the typical illiquidity and anomalies in a context that HF approach could solve the problems related to liquidity. In addition it is possible to consider scale effects with implications for the access of retail investors.

HF strategy could be easily engaged by SIFs in the actual context of a small portfolio rotational speed. The advantage of SIFs is related to their stability and resilience to shocks (this is a remarkable progress) because of their interest to change the old static portfolio management style. The competition in AIF market will signal a growing interest toward HF style of portfolio management that brings a better probability to target opportunities on markets together with an intelligent control of risks. Romanian SIFs are AIFs with a solid base of retail and this also contribute to the building of a solid alternative investment culture in Romania.

Regarding the performance of HF portfolios we should understand that they could not be compared with any performance benchmarks or risk benchmarks because the typical portfolios are very dynamic and are build based on the

mechanisms of targeting momentum opportunities in market. In these strategies the managers try to control, the risk by using dynamic sets of long- short combinations.

In the case of HF strategies in frontier/ emerging markets we can use different approaches:

a) market trend strategies (equity trend, short, timing)
b) dynamic restructuring of the components of HF portfolios (dynamic adjusting of the capital, arbitrage in mergers in acquisitions, interventions based on special events)
c) arbitrage and convergence strategies (bonds, convertible bonds, statistic arbitrage, arbitrage on relative values – for example based on volatility)
d) strategies based on special opportunities (a larger component of liquidity dedicated for these transactions); there could be large periods of tranquillity and low volatility on non- defined trends and a component of portfolios ...
e) indirect investment strategies in other AIFs/ funds; this is a classic strategy used by Romanian SIFs in a reciprocating format
f) mixed strategies and rotational strategies adapted to the possibilities offered by the capital market

We should understand that HF strategies are not miracles and the characteristics of the market give them the efficiency. All the decisions and transactions should be based on robust techniques and artificial intelligence give them effectiveness, but the governmental interventions should be more focused on markets, on the processes of stimulation the investment culture. These interventions could offer scalability of transactions and a better access of investors (including retail investors via SIFs) to hedge fund strategies.

We should also remark that hedge fund strategies via their transaction strategies and their versatility could offer benefits independently of direction of the market, because they contribute to the growth of liquidity, a critical aspect especially in turbulent and crisis periods, and to the building of natural stabilization mechanisms. This type of sub- portfolio and this HF style of management is difficult in a frontier market and the uncertainty related to the future liquidity could negatively impact this development.

2. Private equity (PE-SP) and venture capital sub-portfolios (VC-SP)

The use of private equity (PE-SP) and venture capital sub-portfolios (VC-SP) in the case of SIFs could be sustained by the fact that SIFs are closed- end funds (listed on BSE, without the pressures on liquidity), with a good diversification and a good financial stability (their portfolios are based on listed stocks from the finance and energy sectors with very good propensity of dividends).

Private equity (PE) investments offer long term financing to business and projects capable to demonstrate continuous performance above their sector (typically the line of finance is around 100 M Euro) by using special dedicated equity. The private equity funds (PEFs) build their portfolios around these type of projects and from the operation point of view there exists a set of complex investment activities like: the decision making process for selection the elements of portfolio, investment timing,

capabilities for additional support and solution for restructuring or closure (via initial public offerings IPOs).

The frontier-and emerging markets contain different constraints for the effective access to a variety of strategies, problems of liquidity and the need to a more complex process of monitoring. All these elements contribute to the escalation of costs in the context of difficulties to scale the investments. In the case of SIFs is very difficult to engage a sub-portfolio dedicated to PE/ PEF investments but according to the objective to target the opportunities is possible in some frames to use temporarily private equity sub-portfolios (PE-SP).

Venture capital strategy (VC) and venture capital funds (VCFs) represents a particular application of PE/ PEF investments but focussed on innovative start-ups (with low tangible assets but high capacity to demonstrate the possibility to add value). VCs/ VCFs could be considered for simplicity, as a sub- category of PEs/ PEFs, dedicated to the small- medium companies that embrace the technological innovation with around 10- 20 M Euro/ project. The invested return in the case of VC/ VCF is typical higher than PE/ PEF investments, according to the perceived risk.

Because VC/ VCF could finance innovative businesses and projects with high risk and low liquidity, it is essential the active implication of the investment manager in the whole process of monitoring the progress of the company and in the entire line of operational management. In this case of managerial assistance and technical consulting in business, the VC/ VCF participation is more focussed on the detailed operational objectives, correlated with the business plans.

A very interesting particularity is linked to the fact that VC/ VCF investors could benefit from the essential advantage offered by the mechanism of reducing the informational asymmetry that is a specific element of the environments with high uncertainty and low liquidity perspectives. The investment managers should understand the processes of fund collection, the selection of portfolios, the structuring abilities in the portfolio companies, the monitoring of investments, and also the exit strategy at the end of the investment cycle. The management of VC/ VCF is very complex but from the contractual point of view there are a lot of advantages. The company interest in VC/ VCF financing benefits from an investment that is not possible by using conventional instruments and could be represented by a simple CALL option with leverage implications. It is very interesting to note that the value of an option grows together with the volatility of the asset or the sub- portfolio, and in this case it is created a preference for long term investments, that imply a higher risk. In this partnership is created also an attitude toward lower risk from the manager of the beneficiary company.

In VC/ VCF partnership in frontier markets, the essential element of selection but also of management is represented by the business plan. The most important aspect in the decision of VC/ VCF financing is related to the building of the architecture of the business plan in a contract that harmonizes the interests of investors with the interests of portfolio companies. The business plan is focussed on market, product, intellectual property rights, managerial team, operation history,

financial projections, exit opportunities.[1] The plan should be coherent and consistent and should express the business strategy together with the management of risks and resources. In addition the plan should reflect the natural ability of the management to build an efficient set of operational actions capable to target the performances. The plan should be also realistic and adaptable to the uncertainty around the next rounds of financing, and also around the public exit via IPOs.

The typical life cycle of VCFs in frontier markets is similar to J- curve of Gompers- Lerner and is represented by: a first stage for capital subscription; the analysis of several business plans; the proceed of first round investments (in frontier markets this phase is shorter because there are no dividends and the risk is higher); the active management of the fund (with next rounds financing and capital injections); special dedicated monitoring with managerial and technical support (this phase is extended because it offers the profits to VC/ VCFs); the redemption of the investments via strategic exits.

Next, we analyse the possible strategies and solutions for a flexible adaptation of PEFs/VCFs in the actual picture of the Romanian capital market. First of all we should mention that in frontier markets, for building the specific investment culture, modernizing and building new infrastructures of capital market, alternative financing need a strong governmental support. In the case of Romania, there exists an advantage resulted from the efficiency via reducing the problems associated to the moral hazard. From the capabilities of project selection and by refining the personalized contracts with artificial intelligence ingredients is possible to obtain a better adaptation to the opportunities in the context of high uncertainty and asymmetric information.

3. Other alternative investment opportunities - sub-portfolios (OAIO-SP)

In the case of OAIO-SP, we could consider real estate (a domain of investments preferred by Romanian investors) ETFs (exchange- traded funds offers a good efficiency in the context of diversification but the market is not prepared with only few exceptions for these instruments) and commodities (oil, gold could offer interesting performances in spectral periods). The bad news is that this type of investments does not represent a significant participation.

4. The integration of the dynamic capability view in the strategic management of AIFs sub-portfolios in the case of frontier/emerging markets

The integration of the paradigm of dynamic capabilities PDC could offer a dynamic picture of the real possibilities to improve the active management of AIFs/ SIFs in frontier and emerging markets. These markets are characterized by multiple frictions, and in a global context characterized by with adverse selection, information asymmetry and moral hazard, the decision making process in portfolio management is extremely complex.

[1] M. J. P. Anson, *The handbook of alternative assets*, 3rd ed. (Hoboken: John Wiley & Sons, 2008).

The dynamic capabilities represents different subsets of capabilities that could create new processes/ products that effectively respond to change. In the case of active portfolio management the objective is to understand the strategies for survival and for obtaining sustainable alpha- performances and our related concept is dynamic capabilities for portfolio management (DCPM).

In Helfat (2007), the definition is focused on internal resources and processes ignoring the way that organizations are impacted by the environment (represented in our case by the markets) but in Wang, Ahmed (2007) dynamic capabilities are oriented on the integration, reconfiguration and reconstructing the capabilities to respond to change processes. Most important is the fact that the dynamic capabilities represents a concept situated beyond a simple organisational process, with direct implications on performance.[2] DCPM could offer interesting directives for obtaining sustainable advantage in inefficient and turbulent markets. DCPM are situated beyond the simple rules and processes because they act as capabilities for natural reconfigurations taking into account interaction effects. DCPM suggest the way in which the dynamic systems with fast changing, integrate different type of assets in order to upgrade the operational capabilities and the evolution fitness. DCPM could impact the base of portfolio management from a synergic perspective of the processes of integration, reconfiguration and reconstruction. The main capabilities are in this case: adaptivity (identification of investment opportunities), absorptivity (flexible integration of market information) and innovation (capacity to create new financial products). The active portfolio management is linked to the capacity to anticipate opportunities/ threats and to exploit the market timing in order to change the allocations.

Other related concept, the managerial dynamic capabilities MDC express the capabilities for creation, extension and modification of the operations. The impact of managers is different (managerial cognition, social capital and human capital) with impact on performances. MDC concept could also be used in active portfolio management in the case of frontier markets. The hybrid models are used together with other perspectives (resource based view, transaction cost economics, learning, social psychology).

VI. Conclusions and managerial implications for the Romanian AIF industry

The performance of portfolio management in frontier/ emerging markets is influenced by the qualitative aspects like the efficiency of markets, in the context of a moderate competition and a sophisticated regulation (with pressures on administrative costs). In frontier and emerging markets, the market portfolio expressed by the principal index is a benchmarking difficult to be obtained in this context of constraints. The recent progress of Romanian AIFs in the context of market accession in emerging category is analysed from the perspective of closed-end funds (SIFs) focused now on alternative investments.

[2] D.J. Teece, G. Pisano, A. Shuen, "Dynamic capabilities and strategic management," *Strategic management Journal* 18(7) (1997).

The future of alternative investments in Romania is based on the aim of stakeholders to obtain better performances (expressed by returns) and a better profile of quality control (expressed by liquidity and risks). In addition we should consider the effects resulted from the impact of conventional markets, the access barriers for retail- investors, the intention of reconfiguration of pension fund strategies (with only modest performances in the context of reducing the rate payments).

Romanian capital market are also waiting for significant structural changes (with a special interest for sovereign funds SWFs, public- private partnerships PPPs and a robust development of retail) in the context of a growing maturization (culture of investments, infrastructure, regulatory aspects and investment partnerships).

In Romania, the alternative investments could benefit and could also contribute to the reconfiguration of the competitive global picture, offering new and innovative financial products and services, the reduction of entry barriers and extended solutions for reducing the long term financing costs.

The new models of partnership results in a natural way from the new business models, the implications of the transformation of the Romanian capital market, and targeting the opportunities of co-investment contracts. The alternative investments via funds is also efficient for Romanian capital market because it builds the culture of investment, it adds professionalism, trust and it grows the advantages related to the expansion via retail. Next, the governmental support via the culture of alternative investments should also mention the public- private partnerships PPPs and mechanisms to improve the access of retail investors. The regulatory boards should better understand the connections of alternative investments with the traditional way, monitoring the processes of change and the design of specific reforms capable to sustain the processes of long term investment in the real economy.

The alternative investments could offer benefits at the macro level of society because they contribute effective to the management of adequate long term but easy adaptable solutions for financing an extended set of business including the typical problems related to high risk and high illiquidity. The alternative investment funds and especially the hedge funds could represent also a strong buffer for liquidity an aspect essential in the case of a frontier market. In addition to the support for the market discipline and the operational practices resulted from the partnerships between investors and managerial teams, it results new solutions for efficient risk control. In the case of Romania, the race toward high returns could also contribute to closing the financial gaps and the stimulation of initial public offerings IPO. In the future, managers should better understand the limits of the risk- return envelope in a dynamic view and in the context of a liquidity and transparency.

The analysis of the performances of Romanian SIFs organized as AIFs, that activate in a frontier-market, is a very complex task in the context of the characteristics and the global image of this type of capital market. The traditional methods used to understand the performance of portfolio management does not respond to the interest of stakeholders (managers, investment specialists, portfolio managers, investors, regulators) because the complexity of typical mechanisms. In this case a spectral portfolio management alternative that capture qualitative aspects could offer new solutions for strategy and tactics of portfolio management of AIFs

in frontier and emerging markets. The conventional theories and instruments could not offer a solid base of understanding the directives of portfolio management in the case of AIFs/ SIFs in a frontier market.

The integration of alternative investments in Romanian capital market could contribute to the foundation of new strategies for acting in the sense of a better economic convergence via markets. The alternative investments in frontier markets are very complex concepts penalized by the limited understanding of risk dynamics. The development of AIFs as robust investment vehicles could access strategies for obtaining better performances, better attraction, with capabilities to accelerate the changing of status of Romanian capital market.

The use of satelitar sub-portfolio paradigm could dynamize the management of Romanian AIFs. The aim is to obtain better returns with lower costs and volatility. The active management at sub-portfolio level could be viewed as project pilots on scalable components of the AIFs portfolios and the future work should consider the integration of the real option paradigm. The active management of sub-portfolios with rotating capabilities according to the market opportunities, like HF-SP, PE-SP, VC-SP, OAIO-SP capture the paradigms of dynamic capabilities and option-thinking in a special manner that reflects the special features of frontier markets.

Future work should better integrate the qualitative indicators. The spectrum of surprises in Romanian frontier capital market are also different both in impact and frequency, but also is interesting to note the behaviour of BSE index stocks after such an event. The analysis based on spectral portfolio management that integrate dynamic capabilities and option thinking could be also used in understanding special solutions for AIF portfolio management, but also in special analyses (for example the case of the analysis of the effects of Governmental Emergency Act OUG114/ 2018, that hit the Romanian capital market with high impact on the financial stability and also the correction with OUG 19/ 2019).

Finally we should re-consider the new role of financial and entrepreneurial education (there are only few programs, like *Invest in Romania*, *Fluent in finance*) could contribute to the general process of building the brand via growing the efficiency and liquidity of the Romanian capital market, in the context of accession toward the emerging market status.

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