

# INVESTMENT RESEARCH & ANALYSIS JOURNAL

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Vol 6 / N 1 / 2015 - 2018

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**INVESTMENT  
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JOURNAL**

[www.iraj.gr](http://www.iraj.gr)  
ISSN 1790-8094

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Website: [www.iraj.gr](http://www.iraj.gr)

Publisher: “Valuation & Research Specialists” (“VRS”)

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Typographical layout and leaflet production by

**PrintFair**

2-4, Sina st. P.O. 106 72 Athens, Greece

T +30 210 3388119

E [info@printfair.gr](mailto:info@printfair.gr)

W [www.printfair.gr](http://www.printfair.gr)

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# Corporate Strategy and Business Research Directions for Developing Countries

INVESTMENT  
RESEARCH &  
ANALYSIS  
JOURNAL

[www.iraj.gr](http://www.iraj.gr)  
ISSN 1790-8094

■ CHARILAOS MERTZANIS<sup>1</sup>

**A**bstract: The paper addresses the issue of developing a modern research-based education and policy agenda for business strategy in developing countries. It provides directions of corporate strategy and business research in the light of the experience gained from the development of the discipline over the recent decades in developing countries. It focuses on the clarification of relevant analytical issues, the proper location of finance and industry effect on development, the role of culture, politics and institutions for entrepreneurship, corporate investment and growth and the conditions for business sustainability. These directions are useful for guiding business research not only for developing country corporate strategies but also for several developed ones as the latter have recently entered into a phase of chronic economic slowdown that has seriously impacted upon corporate strategy. The paper provides outlines specific research questions that might form the basis for developing high-level educational curricula and guiding research support as well as development aid programs for developing countries. Ultimately, these directions might be used as a roadmap for development research-based economic policy reform programs for developing countries.

**Keywords:** Globalization, business research, corporate strategy, developing countries, institutions, educational programs, development policy.

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## 1. Introduction

Corporate and business strategies are shaped by the trade-off between opportunity and risk. This trade-off is largely affected by three broad environmental factors: prevalent political economy conditions and modes of government intervention and regulation; market conditions and resources; and the form and intensity of competition. These factors and their relative significance have been shifting overtime between and within countries and regions (see Fig. 1). Thus, historically, one would expect that decisions of corporate strategy and thereby corporate strategy and business research would be made in response to the challenges posed by the prevalent conditions in countries at different stages and phases of development, individually and as parts of the world system.

Today, increasing globalization has led to greater interdependence and mutual awareness among disparate economic, political and social units throughout the world. At the same time, globalization has raised the level and forms of risk facing internationally diversified corporate strategies. In much of the western world, corporate strategy has been forced to adjust to the new environment that has emerged as a result of global events and their domestic economic and social repercussions. Such events have ranged, *inter alia*, from natural disasters and natural environment developments to global business competition to financial instability and the collapse of financial institutions to the near-collapse of sovereign states to the fragility of the global economic arrangements and the role of institutions and national culture (OECD, 2009). Thus, the determination of the different countries' development status does matter for corporate strategy and business research as it is associated with different financing patterns, international development aid, foreign portfolio and direct investment flows and resilience to external shocks.

Accordingly, the focus of strategic management and business research has shifted towards the analysis of the key determinants that have significantly affected the shape of globalization process in markets and economies and their repercussion for developing economies. Following this shift of strategic management focus, developing country business research needs to focus on the conditions that drive domestic corporate strategy in global business and the determinants of success and failure of corporations in developing countries subject to the domestic influence of

uncertain and evolving global rules of the game (Peng *et al.*, 2008).

Therefore, developing country corporate strategy and business research needs to focus on: business practice and organizations, privatization, foreign investment strategies, domestic reform strategies, and globalization strategies for firms operating in developing countries. Thus, corporate strategy and business research in developing countries needs to take a cross-disciplinary approach, break away from the traditional approaches and mindsets taken by developed country globally-driven business research and focus on the specific needs and practices of strategic management in developing countries through the proper analytical refinement of the theoretical concepts and frameworks in the developed market business research.

The paper contributes to this endeavor by outlining areas and directions for specialized corporate strategy and business research for developing countries. It focuses on the clarification of analytical issues, the proper location of finance and industry effect on development, the role of culture, politics and institutions for entrepreneurship, corporate investment and growth and the conditions for business sustainability. These directions are useful for guiding business research not only for developing country corporate strategies but also for several developed ones as they have recently entered into a phase of chronic economic slowdown. The paper provides outlines specific research questions that might form the basis for developing high-level educational curricula and guiding research support as well as development aid programs for developing countries. Ultimately, these directions might be used as a roadmap for development research-based economic policy reform programs for developing countries. The paper is structured in a non-technical manner that can be better understood by non-expert decision-makers in development policy and higher education. It is ultimately aimed at developing a public policy debate on meaningful reform in developing countries.

In what follows, section 2 focuses on the analytical clarification of the different countries' development status; section 3 focuses on the role of foreign versus domestic finance and investment; section 4 focuses on the role of internal conditions for sustainable development; section 5 focuses on the conditions for internal business growth; section 6 focuses on the role of institutional governance and market conditions, and finally section 7 concludes the paper.

**Figure 1. Business strategies in developing countries during globalization**

<i>Opportunity/Risk</i>	<i>First global economy</i> 1850-1929	<i>De-globalization phase</i> 1929-1978	<i>Second global economy</i> 1978-present
<i>Political economy and modes of government intervention</i>	High receptivity; international law and imperialism support expansion of western firms	Expropriation of natural resources; import substitution policies; exchange controls	Liberalization, but sovereign and assertive governments
<i>Market conditions and resources</i>	Low income; cultural and behavioral differences; vast natural resources	Limited convergence; foreign ownership restricted; domestic & foreign co-exploitation of natural resources.	Globalization; diversified ownership; tribalization; low cost labor
<i>Competition</i>	Embryonic	State-owned companies (monopolies); private enterprise curbed	Growing private sector; increasing competition from financial to product markets
<i>Business strategies</i>	Co-opt local elites as partners; implement western business styles; seek home country support; overcome logistical challenges	Divest local; invest in West; forced negotiations; joint ventures and local participation	Access low labor costs; adapt to local markets and politics; engage in joint ventures; adopt managerial diversity

## 2. The character of developing countries

### 2.1 The identification of a “developing country” status

An important policy issue has been the identification of the “developing country” status. The latter matters for financing and development aid decisions. Based on various definitions, country classifications between “developing” and “developed” categories have been shifting over time. For example, Japan progressed from a developing status in the first global economy phase to one of the world’s largest economies in the second global economy phase. In 1981 the International Finance Corporation noted that an “emerging economy” reflects a low-income, rapid-growth country that is using economic liberalization as the primary engine of growth (Hoskisson et al., 2000). There is no common acceptance of which countries have an “emerging economy” status. For example, the so-called BRIICS (Brazil, Russia, India, Indonesia, China, and South Africa) are considered large emerging markets but only recently Indonesia and South Africa entered the group (OECD, 2009). All

of these emerging markets are growing regional economic powerhouses and their societies are in transition as economic and political reforms are undertaken and the nations become active players in world affairs. In the second global economy, the terms “developing” and “emerging” are used interchangeably, with countries such as Singapore and South Korea (Asian “tigers”) falling in either category despite their level of economic development.

Today is widely accepted that developing countries have broadly displayed three shared characteristics (Coussy, 2009): they are latecomers to development, they had until recently attained very high growth rates, even double digit ones, and their growth has for some time at least challenged the economic situation of developed countries. Today, developing countries comprise about 85% of the world’s population, are increasingly exploiting external market forces to facilitate domestic economic reform, and therefore present both opportunities and challenges with respect to the economic growth regionally and globally. Given the size and dynamism of developing countries and their rising

role in global economy, new and clear theoretical concepts and testable variables are needed to identify the identity and evolution of developing countries. This leads to the following business research questions that need to be addressed:

- a) When does a country move out of the developing country group/status and joins the advance market group?
- b) Is there some middle-level group of countries that should be considered neither advanced nor developing countries?
- c) Are there any inherent political, economic, or social advantages to being a middle-level group economy?
- d) Are there any inherent political, economic, or social institutions that direct, at various paces of change, a country towards being a middle-level group economy?
- e) How can economic progress be perceived, analyzed and measured in developing countries?
- f) To what extent is economic progress in developing countries affected by domestic values and social norms?
- g) Are there potential benefits of developing country voluntary groupings or common-currency areas? What are the conditions of success?

### 3. Finance and investment

#### 3.1 The role of foreign portfolio investment in domestic economic development

Not long ago, developing countries were touted as the dynamic engines of growth that would take over the developed economies. Economists at global investment banks and consultancies were predicting an era of broad and sustained growth from Asia to Africa. But in the last couple of years the aspirations have faded and the developing countries faults are surfaced. Ever since the US Federal Reserve began to tighten US monetary policy, developing countries' currencies have taken the hit. This was just the start: everywhere there seem to be deep-rooted problems (IMF, 2014). Some developing countries have run out of heterodox policy tricks. Others need new growth models. Still others are mired in political crises that reflect long-sim-

mering domestic conflicts. Yet others are mounting about the lack of structural change.

This is not the first time that developing countries have been hit hard by abrupt swings in global financial markets. A few fundamental lessons are quite clear by now (Edwards, 2007; Forbes and Warnock, 2012): First, emerging-market boom was rather a hype than a sustainable growth path. Economic miracles rarely occur. Very few governments intervened massively to restructure and diversify the economy, while preventing the state from becoming a mechanism of cronyism, corruption and rent-seeking. Developing countries' growth over the last two decades was fueled by an incidental and temporary set of favorable external circumstances: high commodity prices, low interest rates, and seemingly endless foreign finance. Improved macroeconomic policy and overall governance helped too, but these are conditions for growth, not growth triggers. Second, financial globalization has been rather a curse. Openness to capital flows did not boost domestic investment and reduce macroeconomic instability. Portfolio and short-term capital inflows tend to fuel consumption booms as well as asset and real-estate bubbles, with disastrous real consequences when market sentiment inevitably turns around and finance dries up. Third, floating exchange rates are flawed shock absorbers. Market-determined currency values are theoretically supposed to isolate the domestic economy from the vagaries of global finance, rising when money flows in and falling when money flows out. In reality, few economies can bear the requisite currency alignments without pain. Sharp currency revaluations wreak havoc on a country's global competitiveness. Sharp currency depreciations are a central bank's nightmare, given their inflationary consequences. Floating exchange rates may moderate the adjustment difficulties, but they do not eliminate them. Fourth, global economic-policy coordination is far from adequate in mediating these problems. Developed economies' fiscal and monetary policies will always be driven by domestic considerations first. It is naïve for emerging-market governments to expect major financial centers to adjust their policies in response to economic conditions elsewhere.

It is clear that insulation from the repercussions of abrupt swings of global finance should mainly rest in the hands of policy-makers in the devel-

oping world. They should resist the temptation to indulge on foreign finance when it is cheap and plentiful. In the midst of a foreign-capital bonanza, stagnant levels of domestic private investment in tradable goods are a particularly powerful danger signal that no amount of government propaganda should be allowed to override. The policy choice is obvious: maintain prudential controls on capital flows, or be prepared to invest a large share of resources in self-insurance by accumulating large foreign reserves. The excessive financialization of the global economy that has occurred since the 1990's has been associated with rising inequality, greater volatility, reduced room to manage the real economy. These developments should preoccupy policymakers in both developed and developing countries. It is true, but unhelpful, to say that governments have only themselves to blame for having recklessly rushed into this wild ride. It is now time to think about how developing countries can create a saner balance between finance and the real economy. This leads to the following set of business research questions to be addressed:

a) What is the extent of developing country financialization and financial intermediation? What is the range of financial instruments issued and traded?

b) What forms of corporate financing patterns are prevalent in developing countries? What is the role of external finance?

c) How persistent are path-dependent processes in corporate governance structures in developing countries?

d) How much and in what way have foreign-based finance and other external conditions contributed to developing country sustainable growth path and private sector investment? How stable these conditions have been?

e) Have developing countries with varying degrees of financial openness performed better than others? Have companies in these markets performed better than others?

f) What has the impact been of various mechanisms controlling the free flow of capital on developing country financial stability and on corporate sustainability, productivity growth and foreign market penetration?

g) How can developing countries be listened to and contribute effectively to global financial policy coordination efforts?

### **3.2 The role of foreign direct investment (FDI) in domestic economic development**

Companies in advanced economies have been undertaking FDI into developing countries in order to grow further. Thus, large global companies carried their advanced business practices into developing countries. As the global economy developed, developing countries began to seize the opportunity to spread their strengthening domestic marketplace competence into less-developed developing countries, thus expanding into them. Eventually, developing country potent companies emerged that were able to penetrate markets in the advanced economies (Ramamurti, 2009; Wright et al., 2005). FDI from developing countries into either less-developed developing countries or even developed economies goes against conventional wisdom and, as such, has not received the necessary attention within global business scholarship. Far from Vernon's (1966) unidirectional view of global expansion driven by corporations in advanced economies seeking elsewhere new market opportunities or new sources of inputs (natural resources, knowledge, etc.), developing countries enterprises were occasionally able to go global based on both country-specific and firm-specific advantages (Aharoni, 2009; Rugman, 2009; Williamson and Zeng, 2009).

This leads to the following set of business research questions to be addressed:

a) Are the theories and concepts developed by studying the FDI push strategies of corporations in the advanced economies applicable also in the reverse?

b) What firm-level or industry-level or country-level characteristics and conditions are associated with global success of an developing country company?

c) Is there any tradeoff between domestic and global success? Is there any priority or interaction among firm-level or industry-level or country-level characteristics of developing countries conducive to successful corporate growth?

## **4. Internal conditions for sustainable development**

Sustainable development of corporations in developing countries requires sound business deci-

sions in globally competitive conditions. Such decisions are path-dependent and driven by a company's surrounding operational and market environment. The latter is crucially determined by trends in demographics, social values and technology.

#### 4.1 The role of demographic trends and social values

The demographic trends in the most of the developing countries are strongly upward looking. Growing populations are associated with growing wealth and demand for commodities and services. However, growing prosperity is also associated with growing income inequality, as well as growing needs for basic public services, such as health-care and education (Piketty, 2014). Growing demographics and wealth generation have also led to intensifying urbanization of population which exacerbated the divide between urban and rural areas (Smith, 2008). Growing demographics and wealth generation have affected domestic culture and social behavior too. Developing country behavior at the public policy domain tends to become more and more homogeneous with that of the developed markets in respect to accountability, transparency, performance expectations, freedom accorded within society, and product preferences, not least as a result of conditionality agreements against international financing (Czinkota and Ronkainen, 2009). However, business practice behavior at the private enterprise domain tends to clash and exhibit conflicts of interest: domestic companies are forced to infiltrate a variety of cultural attitudes and business practices which give rise to internal conflicts and risks. Forced to coincide, different religious and social values conditioning operations and performance within developing country global companies have had an impact on domestic business expectations and processes that may actually inhibit globalization success. This leads to the following set of business research questions to be addressed:

a) How do growing demographics and hyper-urbanization trends in developing countries impact upon domestic business practice and corporate strategy?

b) To what extent is there a growing homogeneity within and between public domain cultures and private enterprise affairs? To what extent do-

mestic cultures, social values and social institutions affect the strength of homogeneity in business affairs?

#### 4.2 The role of technological developments

Technological growth and innovation are fueling the 'animal spirits' of the business world in various ways (Smith, 2008). The growth and dissemination of technological progress and innovation results has helped developing countries to integrate into the global marketplace at an unprecedented pace and has created a technological infrastructure that allows them to potentially compete on a global level as well as to satisfy growing and diversifiable consume needs (i.e. mobile phone services). Technological growth and innovation has not only affected consumer behavior but also facilitated business-to-business operations and marketing strategies in the marketplace. Companies in the technology-intensive sectors that are headquartered in developing countries grew their market capitalization by almost 40 percent, compared with 15 percent for companies headquartered in mature markets (der Heyde and Sundjaja, 2008). This means that the dissemination of technological progress and innovation in developing countries has provided the opportunity to better understand the critical drivers of competitive advantage. Potential business success requires the absorption of technological innovation and creative thinking regarding the role and impact of linkages and their implications within and across emerging and advanced economies (Crittenden et al., 2010). This leads to the following set of business research questions to be addressed:

a) Under what conditions can technological growth and innovation spur faster and more effectively from developed to developing countries;

b) How could technological growth and innovation affect business decisions and operations in ways that enhance the competitive advantage of developing countries?

c) Which developing countries sectors of activity can most effectively adopt and absorb technological innovation?

d) Is there ground for developing new industrial policies in developing countries? What are the main directions?

### 4.3 The role of natural resources

The rapid growth of population, urbanization, energy demand, food and water in developing countries along with rising domestic aspirations for economic progress and a better lifestyle have led to the creation and expansion of relevant industry sectors worldwide (Czinkota and Ronkainen, 2010). These trends in developing countries have added to any growth of them in developed economies and therefore will exert further pressure on the depletion of natural resources. Developing countries with high natural resource exportation may enjoy the benefits of rents but they eventually find themselves trapped in a vicious cycle of rising income inequality and poverty of domestic people that do not own natural resources versus those that do (“resource curse”). Developing countries without high natural resource exportation may eventually find themselves trapped in a persistent balance of payment constraint forced by the recurrent needs to import food and energy amidst urban degeneration and infrastructure deterioration (Lewis, 2004). In both cases, overall developing countries concerns with the consequences on the environment will be limited as they are outweighed by the political pressure to meeting urgent population needs, with substantial repercussions for developing countries population health conditions (Czinkota and Ronkainen, 2009). It seems that environmental issues are more the concern of advanced economies rather than of developing countries. This leads to the following set of business research questions to be addressed:

- a) Is there a necessary trade-off between growth-enhancing policies and resource sustainability in developing countries?
- b) What conditions determine developing countries actual trends and policies regarding resource sustainability?
- c) Is there an association between resource sustainability effort and developing countries identification?
- d) To what extent and under what conditions green and other resource-sustainable investment can flourish in developing countries?

### 4.4 The role of political stability and institutional governance

The globalization of market activity has taken place amidst worldwide political and institutional instability. Political stability and institutional reforms are critical for entrepreneurial activity and business sustainability in an open market economy. Today, many developing countries are straggling with political instability of all varieties (from mild versions of unstable governments to extensive corruption and rent-seeking to extreme versions of terrorist acts), crony systems of public discourse and capitalist behavior, and inadequate institutional and structural reform. All of these factors inhibit effective business thinking and actual investment (Czinkota and Ronkainen, 2008, 2009; Kvint, 2009). The elimination of political instability and crony capitalist behavior should be crucial goals of developing countries policies. However, path dependence is persistent limiting the success of policy: when political instability breeds further instability and when corruption breeds further corruption domestic institutions tend to tolerate rule-bending and regulatory capture in important areas. The problem becomes astute in resource-rich developing countries. Lack of political stability and institutional credibility has typically dire consequences on competitive private business strategy formation (Crittenden et al., 2010). This leads to the following set of business research questions to be addressed:

- a) To what extent do political instability and crony capitalist behavior affect competitive private business strategy in developing countries today and the near future?
- b) To what extent do political instability and crony capitalist behavior constitute impediments to the development of developing countries and their elevation into advanced status?
- c) What public policy and private practice can do to contain the negative repercussions of political instability and institutional incredibility?

## 5. Internal conditions for business growth

### 5.1 The role of entrepreneurship

Entrepreneurship is crucial for raising income levels and alleviating poverty in developing coun-

tries and more generally. However, processes and decision-making on entrepreneurship in developing countries differ from those observed in developed countries. These differences are often notable between and within developing countries. For example, China and India, deserve special attention as they represent the vast majority of entrepreneurial activity worldwide and have distinct entrepreneurial cultures and traditions themselves.

Better understanding of these differences is crucial for private sector development in developing countries. However, the typical model for understanding entrepreneurship in developing countries draws heavily on the conventional finance tool-box based on the interaction between uncertainty, investment and corporate profit (Knight, 1921). Entrepreneurs are assumed to be driven by roughly the same motives and impulses as in the developed world. Rational behavior is conceived of as maximizing behavior. But, rational behavior cannot be easily reconciled with the basic entrepreneurship functions: coordination, arbitrage, innovation, and uncertainty bearing (Barreto, 1989). Entrepreneurs do engage in risk-taking activity despite the odds of newly-created firm survival, which is considerably larger in developing countries, exhibiting significant differences in ambiguity aversion, self-control and susceptibility to framing and formulating business evolution (Bhidé, 2000). These differences need to be understood if entrepreneurship policy is to be successful. Recent information embodied in international surveys, e.g. the World Business Environment Survey (WBES) and the Global Entrepreneurship Monitor (GEM) project, can help understand the diversity and the dynamics of new firm formation in developing countries.

However, not all entrepreneurial activities are important for sustainable growth. Indeed, new and growth-oriented enterprises are very important as they have a greater capacity to create sustainable economic growth relative to microenterprises or long-established companies with limited growth prospects. The differences between growth-oriented entrepreneurs in developing and developed markets are rooted in the different ways that markets operate in those countries as well as in the types of response that entrepreneurs have to such differences, which are often surprising by conven-

tional standards. Several “irregularities” in entrepreneurship behavior are empirically observed in developing countries: opportunity entrepreneurship in poor countries is not significantly correlated with more free and competitive countries, or with recently growing countries, or with countries with higher protection of property rights and levels of corruption (Reynolds et al., 2004). Thus, entrepreneurship policy success may not be significantly related to the improvement of the general business environment, as standard development finance institutions tend to argue about.

If entrepreneurial success in the developing countries is to be understood then both the individual and social-cultural aspects on “animal spirits” must be comprehended. The former (individual) require a dive into the inherited psychological norms of behavior prevalent in the developing countries. The latter (social-cultural) aspects of entrepreneurial initiative in developing countries require an understanding of the distinctive features of developing country environments. Three key factors are important in this respect: entrepreneurial opportunity, access to finance, and human capital enhancement.

Entrepreneurial opportunity in developing countries is broader in scope than in developed ones. Developing countries lack the consistency offered by stable and mature markets. Consequently, entrepreneurial opportunity in developing countries is pervasive: developing country entrepreneurs operate less subject to specific rules and more closely to the core of decision-making centers: political, economic, regulatory; and they adjust to their interaction. Further, while entrepreneurial opportunity is broader in developing countries, it is also limited by inadequate personal and family savings, general financing constraints and an absence of financial innovation that severely limit the growth prospects of promising startups in developing countries. Finally, entrepreneurial opportunity in developing countries is also affected by the network of within-industry and between industry-and-finance interactions that condition the innovation efficiency of industrial clustering. Inventions and ideas can only be good if translated into commercial innovations. But, entrepreneurship is a lonely profession that needs recurrent mentorship and apprenticeship to flourish. The well-trained talent can be innova-

tive if it is nourished in a culture that encourages coordinated and sustainable support for innovation and new business creation. This leads to the following set of business research questions to be addressed:

a) What are the key determinants of entrepreneurship at the three different levels of initiative undertaking: the individual startup level; the small-and-medium enterprise level, and the mature large corporation level? Can they all be part of a coherent entrepreneurship policy reform effort?

b) How is the opportunity of entrepreneurship related to more free and competitive conditions (i.e. role of democracies or liberal ideologies); or, to the growth trend (i.e. possibility of creating new “tigers”); or, to higher protection of property rights and combat of corruption and abuse?

c) To what extent do access to finance and human capital enhancement affect entrepreneurial opportunity and activity? Is microfinance a solution?

d) To what extent the opportunity to efficiency at the macroeconomic level (flexible specialization, industrial clustering, industrial policy) affects the entrepreneurs’ responses to the evolution of environmental conditions, and therefore determines the domestic entrepreneurial ecosystem’s overall dynamic path?

## 5.2 The effectiveness of foreign market penetration strategy

Traditionally, the strategy of foreign market penetration starts from rising export growth (low risk, low return), to engaging in licensed operations (contracted manufacturing, leasing), to carrying out foreign direct investment (high risk, high return) in different forms (greenfield, acquisition, joint venture) (Porter, 1990). Further, the efficiency of foreign market penetration has been shown to be affected by institutions and public policies (Chang, 2010; Meyer et al. 2009). The challenge becomes more intense when foreign market penetration strategies by developing country corporations aim at both less-developed and more-developed economies. This leads to the following set of business research questions to be addressed:

a) Can public policy (and funding) aid foreign market penetration strategies by domestic corporations? In what ways?

b) What are the main elements, stages and their causal direction of successful foreign market penetration strategies by domestic corporations in the modern environment?

## 5.3 Dealing with domestic and global competition

Companies in developing countries are forced to engage in competitive rivalry on two counts: with foreign competitors striving to penetrate their domestic markets and with domestic competitors striving to maintain both domestic and foreign market shares. Foreign competitors may have better know-how, technology and products, but domestic companies may have better knowledge of working business practices, consumer demands, and the rules of the game. One way to capture these aspects of business competition is the use of the four-tier structure of markets framework (Khanna and Palepu, 2005, 2006): basic markets (consumers can afford only the least expensive products); domestic markets (consumers are happy with products of domestic quality and domestic prices); glocal markets (consumers want customized products of near-global standards but are not willing to pay the global standard price); and global markets (consumers want products of same quality as that found in developed economies and are willing to pay global prices). This framework rests on the ability of corporations to capitalize on their knowledge of home territory by using any of the following three strategies: exploit/capitalize on knowledge of domestic product markets; build on familiarity with domestic factors of production/resource markets; and fill institutional gaps by facilitating the product-to-market process. Another way to capture the nature of business competition is to focus on the role of market and production factors (Ghemawat and Hout, 2008; Fleury and Fleury, 2009). Their framework includes three strategies: one strategy is located within the customer base, which can be manipulated by competing firms through the filling of product voids (e.g., ancillary offerings, innovative extensions). Another strategy is to manage cost convergence so as to exploit differing domestic cost structures. A third strategy is to create vertical business organizations by reconfiguring and managing existing value and supply chains. This leads to the

following set of business research questions to be addressed:

- a) What are the forms of modern business competition in developing countries?
- b) Can the existing theoretical approaches to business competition capture current trends and practices in developing countries?
- c) What strategies and organizational hierarchies are followed to deal with business competition among foreign and domestic companies? Bottom-up ones (from market-related factors, production-related factors, and institutional/value chain voids to country factors (political risk, etc)) or top-bottom ones?

## 6. Governance, institutions and market structures

The role of institutions and market structures in business strategy management is indisputable. One way to capture the role of institutions is to use a framework that considers the role of the political and social system; the extent of economic openness; and the operation of product, labor and capital markets. Foreign companies seeking to penetrate domestic developing countries try to adapt their strategies toward changing one or more of the contexts to fit company needs, or stay out of the developing country. These institutional contexts drive companies to adjust the manner of their strategy implementation rather than its content (Bonoma and Crittenden, 1988; Bhattacharya and Michael, 2008). Another way is to focus on the nature and interaction of structural and managerial futures (Crittenden and Crittenden, 2008). Structural variables and managerial skills can take on several levels and mutually interact. Structural variables include: actions (who, what, and when of cross-functional integration and company collaboration); programs (organizational learning and continuous improvement practice); systems (strategy support systems); and policies (strategy goals support). Managerial skills include: interacting (exercising of strategic leadership); allocating (resource allocation efficiency); monitoring (tie reward to achievement); and organizing (strategic shaping of corporate culture). Any of these levers appears to constitute a critical component

of business success in developing countries. However, business research should focus on which of these factors are prevalent in different institutional market settings and how these factors interact effectively with each other in enhancing strategy management. Building capable organizations is critical for success in developing countries. This requires an understanding of each of the aforementioned levers and their interaction: effectively an understanding of the inherent link between strategy formulation and strategy implementation in developing countries. This leads to the following set of business research questions to be addressed:

- a) What are the important levers of a successful corporate strategy formation in overcoming institutional gaps or constraints in developing countries?
- b) What are the important levers of a successful government strategy implementation in overcoming institutional gaps in developing countries? Is a command-and-control or a collaborative governance approach more effective for long-lasting policy outcomes?
- c) What are the elements, stages and their interaction that comprise corporate strategy formulation and implementation in a successful way in developing countries?

## 7. Conclusions - a business research agenda

Operating in a competitive global environment for the provision of education services and subjected to the uncontrolled influence of their surrounding socioeconomic settings, business schools today strive to adjust their academic programs to meet the transforming needs of their evolving communities but also to present credible alternatives to international seekers of education services. Business schools in developing countries have to play by the same rules too. If they are bound to produce graduates with considerable probabilities to enter the transforming corporate world and to maintain their competitive position, business schools have to embark on business research programs that are useful and relevant for the developing countries settings within which they operate and addressing themselves to.

The rise of developing countries as important market places in the recent decades has presented substantial challenges to business research and therefore to business schools' research strategies. This note has presented some of the important elements of such a business research agenda that is useful and relevant in the setting of developing countries. The proposed business research agenda draws and expands on the work carried out, on an ongoing basis, by business researchers in the developed economies. But it is focused specifically on the developing countries' newly arisen socioeconomic problems and the need for their mediation and resolution. Several broad business research questions are identified and proposed to form the backdrop of a business research agenda aiming at the enhancement of strategic business management, which is a core focus of a business school.

In addition, this business research agenda could provide a vision to international observers of how developing countries are expected to evolve in the years ahead. By identifying and explaining ongoing trends in developing countries, such a business research agenda would highlight the distinct (or not) business strategy paths taken by developing countries and their corporate evolution relative to those in the developed economies and the rest of the world. It can effectively provide guidance on the future course of events as regards finance and growth, demography and growth, technology and growth, politics and growth, etc.

Moreover, this business research agenda can help elucidate the efficient formation and implementation of private business strategy that is conducive to culture and social values of any given developing countries setting. It can effectively expand the range of business strategy options available in such a setting. This would be expected to aid domestic development.

Finally, this business research agenda can provide the basis for developing a coherent and policy-relevant program of economic reform, substantiated by policy-relevant business research results that can be communicated to policy-makers in the different layers of government in developing countries.

Such a business research agenda requires a sufficient level of coordination among different aca-

demically units and individual business researchers, to be guided by broad, stable and clear principles and frameworks of conduct as well as to be rewarded appropriately. It also requires access to necessary information geared to theoretical analysis and proper business research methodologies—from qualitative methods to survey data to quantitative modeling – and, not least, a proper balance between teaching obligations and quality business research requirements. While much of business research focuses on advancing theory and analytical technique, ultimately business management business research should be geared to solving real world problems. ■

## References

- Aharoni, Y. (2009), "Israeli multinationals: Competing from a small open economy", in R. Ramamurti and J. Singh (Ed.), *Emerging Multinationals in Developing countries*. Cambridge: Cambridge University Press.
- Barreto, H. (1989), *The Entrepreneur in Microeconomic Theory*, London: Routledge.
- Bhattacharya, A. and Michael, D. (2008), "How domestic companies keep multinationals at bay", *Harvard Business Review*, March, 33-44.
- Bhidé, A. V. (2000), *The Origin and Evolution of New Businesses*, New York: Oxford University.
- Bonoma, T. and Crittenden, V. (1988), "Managing marketing implementation", *Sloan Management Review*, 29(2), 7-14.
- Chang, Ha-Joon, (2011), "Institutions and economic development: theory, policy and history", *Journal of Institutional Economics*, 7(4), 473-498
- Coussy, J. (2009), "Emerging countries: An attempt at typology", in C. Jaffrelot (Ed), *Emerging States: The Wellspring of a New World Order*. New York: Columbia University Press.
- Crittenden, V. and Crittenden, W. (2008), "Building a capable organization: The eight levers of strategy implementation", *Business Horizons*, 51(4), 301-309.
- Crittenden, V. and Woodside, A. (2006), "Mapping strategic decision making in cross-functional contexts", *Journal of Business Research*, 59 (3), 360-364.
- Crittenden, V., Peterson, R. and Albaum, G. (2010), "Technology and business-to-consumer selling: Contemplating business research and practice", *Journal of Personal Selling and Sales Management*, 30(2).
- Czinkota, M. and Ronkainen, I. (2009), "Trends and indications in international business: Topics for future business research", *Management International Review*, 49(2), 249-265.
- Czinkota, M. and Ronkainen, I. (2010), *International Marketing, (9th Edition)*. Florence, KY: Cengage Learning.
- der Heyde, R. and Sundjaja, K. (2008), "Five myths about developing countries", *Harvard Management Update*, Article Reprint No. U0808C.
- Edwards, Sebastian (2007), "Capital Controls, Capital Flow Contractions, and Macroeconomic Vulnerability," *Journal of International Money and Finance*, 26(5), 814-840.
- Fleury, A. and Fleury, M. (2009), "Brazilian multinationals: Surfing the waves of internationalization", in R. Ramamurti and J. Singh (Ed.), *Emerging Multinationals in Developing Countries*, Cambridge: Cambridge University Press.
- Forbes, K. and F. Warnock (2012), "Capital Flow Waves: Surges, Stops, Flight, and Retrenchment." *Journal of International Economics*, 88(2), 235-251.
- Ghemawat, P. and Hout, T. (2008), "Tomorrow's global giants? Not the usual suspects", *Harvard Business Review*, November, 4-12.
- Hoskisson, R., Eden, L., Lau, C., & Wright, M. (2000). *Strategy in emerging economies*. *Academy of Management Journal*, 43(3), 249-267.
- Khanna, T. and Palepu, K. (2006), "Emerging giants: Building world-class companies in developing countries", *Harvard Business Review*, October, 60-69.
- Khanna, T., Palepu, K., and Sinha, J. (2005), "Strategies that fit developing countries", *Harvard Business Review*, June, 63-76.
- Knight, Frank (1921), *Risk, Uncertainty, and Profit*, Boston: Houghton Mifflin.
- Kvint, L. (2009). *The Global Developing Country: Strategic Management and Economics*. New York: Routledge.
- Lewis, P. (2004), "Moving beyond the resource curse? Lessons from Indonesia and Nigeria". *Paper presented at the American Political Science Association Annual Meeting*. Chicago, IL.
- Meyer, K., Estrin, S., Bhaumik, S., and Peng, M. (2009), "Institutions, resources, and entry strategies in developing countries", *Strategic Management Journal*, 30, 61-80.
- OECD (2009). *Globalization and Developing Countries*. Paris: OECD.
- Peng, M., Wang, D, and Jiang, Y. (2008), "An institution-based view of international business strategy: A focus on developing countries", *Journal of International Business Studies*, 39, 920-926.
- Piketty, Th. (2014), *Capital in the Twenty-First Century*, Cambridge, MA: Harvard University Press
- Ramamurti, R. (2009), "Why study emerging-mar-

ket multinationals?" in R. Ramamurti and J. Singh (Ed.), *Emerging Multinationals in Developing Countries*, Cambridge: Cambridge University Press.

Ready, D., Hill, L., and Conger, J. (2008), "Winning the race for talent in developing countries", *Harvard Business Review*, November, 63-70.

Reynolds, P. D., Bygrave, W. D. and Autio, E. (2004), *Global Entrepreneurship Monitor: 2003 Executive Report*, accessed at [www.gemconsortium.org](http://www.gemconsortium.org).

Robinson, M. (2001-2), *The Microfinance Revolution, 2 volumes*, Washington: World Bank.

Rugman, A. (2009), "Theoretical aspects of MNEs from developing countries", in R. Ramamurti and J. Singh (Ed.), *Emerging Multinationals in Developing Countries*, Cambridge: Cambridge University Press.

Smith, R. (2008), "Seven revolutions for global sustainability", Retrieved from <http://deltafarmpress.com/news/global-sustainability-1203/>.

Sull, D., Ruelas-Gossi, A., and Escobari, M. (2004). What developing-world companies teach us about innovation? Harvard Business School, Working Knowledge, <http://hbswk.hbs.edu/item/3866.html>

The International Monetary Fund (2014). *Global Financial Stability Report. Moving from Liquidity- to Growth-Driven Markets*. April.

Vernon, R. (1966), "International investment and international trade in the product cycle", *Quarterly Journal of Economics*, 80, 90-207.

Williamson, P. and Zeng, M. (2009), "Chinese multinationals: Emerging through new global gateways", in R. Ramamurti and J. Singh (Ed.), *Emerging Multinationals in Developing Countries*, Cambridge: Cambridge University Press.

Wright, M., Filatotchev, I., Hoskisson, R., and Peng, M. (2005), "Strategy business research in developing countries: Challenging the conventional wisdom", *Journal of Management Studies*, 41(1), 1-33.

# Testing for Cointegration between Athens Stock Exchange and Major Financial Markets

INVESTMENT  
RESEARCH &  
ANALYSIS  
JOURNAL

[www.iraaj.gr](http://www.iraaj.gr)  
ISSN 1790-8094

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**A**bstract: Objective of this study is to examine the potential integration of the Greek Stock Market, represented by the FTSE/ATHX20, with selected developing or developed financial stock markets. The indices FTSE100, DAX, CAC40, MIB, IBEX35, PSI20, IGEN, Dow Jones and Nikkei are examined in an attempt to distinguish whether the Greek Stock Market is in long term equilibrium with the other financial markets. The test of the assumption of long term equilibrium between the financial markets is based on the methodology proposed by Johansen.

**Keywords:** Cointegration, Financial Markets, long term equilibrium

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## 1. Introduction

Today's globalized economic and financial environment is characterized by complex structures, complexity of regulatory processes, diversity offered services and goods, huge financial figures, geographic diversification and functional specificity, multiple business risks and several investment and business opportunities and prospects. However, the welfare of investors depends on whether the markets in which they participate are effective and can be studied and analyzed together in an effort to create a well-diversified and optimal portfolio. Modern portfolio theory requires the investors to diversify their portfolio by investing in securities with an implied correlation – either negative, positive or neutral – so that the investor, following the creation of an optimal portfolio, can achieve performance in line with his expectations.

On the other hand, the ability of the investor to choose from a plethora of investment options is influenced both by the cost of the analysis of alternatives, and by the access to information regarding the various financial goods for investment. Towards this, it is imperative and highly beneficial to examine the relations and interactions between the various stock markets. Research, studies and dissertations elaborated on the theme of interaction between the economies and stock markets, which clearly demonstrate the utility of the theory of cointegration in the modern investment planning and in shaping investment strategies. The possibility of achieving a long-term equilibrium between the financial markets (as investigated by the theory of cointegration) may be a springboard for investments more effective and efficient on the basis that the cost analysis of markets and products is reduced by analyzing a market and as a result the investors gain valuable information for other markets that are highly correlated with the selected market.

The organization of the paper is as follows: section 2 reviews the literature, section 3 describes the methodology used in this paper and section 4 presents the empirical results. Finally, in section 5 the conclusions are presented.

## 2. Literature review

There is an extensive academic research in the field of correlation, cointegration as well as the fundamental similarities between different stock markets. There are researches showing that there is significant correlation between particular markets and others indicating that there is no important connection between examined stock markets. Many researches such as Hilliard (1979), Jaffe and Westerfield (1985a, 1985b), Eun and Shim (1989), Von Fusterberg and Jeon (1989) and Cambell and Hamao (1992), show that there is positive correlation between stock markets. According to Roll (1992), the average correlation between the different stock markets is low and is related with great variance among the examined stock markets. In the examination of the correlation of stock markets, the use of gravity models is becoming more and more widely used. There are models that seek to explain the connection between stock markets and investigate patterns in the co – movements of particular stock markets. Nevertheless, Anderson (1979), Bergstrand (1985), Feenstra, et al. (1998), Anderson and Van Wincoop (2001) have expanded the theoretical background. The importance of the correlation between stock markets can be recognized by the crucial effect of contagion in the international financial sector and is becoming more and more vital due to the increase of the capital flows across national boundaries and the existence of lead-lag interrelationships among stock exchanges. King and Wadhvani (1990) developed the idea of market contagion whereby shocks in a major market, such as the US, spill over into other markets. With the United States being a major investor in many countries and posing a huge political influence on several countries in the world, additional academic research took place to examine the causal relationship between the United States and other equity markets. Results indicate that the United States is an important global factor that moves the world markets. For example, Eun and Shim (1989) examine nine major stock markets (Australia, Canada, France, Germany, Hong Kong, Japan, Switzerland, the United Kingdom and the United States) over the peri-

od of December 1979 through December 1985, and find evidence that the United States market is leading worldwide trends. Cheung and Mak (1992) examine the causal relationship between the developed markets and Asian emerging markets and find that the United States market is a 'global factor' which leads both the developed and most of the Asian emerging markets. Forbes and Rigobon (2002), implemented parameter stability tests based on conditional correlation analysis which correct for three types of bias, resulting from heteroscedasticity, endogeneity and omitted variable respectively, in order to find the influence of strong linkages on the mechanism of contagion. The vital role of correlation can be easily understood by the long and extensive academic research in the field of interdependence and is becoming more and more important due to the increase of the capital flows across national boundaries and the existence of lead-lag interrelationships among stock exchanges. (Corhay et al., 1993). As far as cointegration analysis is concerned, this is the most popular approach that examines linkages and causality between stock markets and there is a lot of research that shows either the lack of cointegration between examined stock markets or the cointegration evidences between markets that can be characterized as emerging or emergent, according to the fundamental market components in each case. Cointegration analysis was firstly developed 19 years ago, starting with the seminal contributions by Granger (1981), Engle & Granger (1987), and Granger & Hallman (1991), Kanas (1998) who examined the existence of cointegration between U.S.A stock market and the corresponding stock markets of six European countries. The evidences showed the lack of cointegration between the examined markets. Kniff and Pynnonen (1999) examined the cointegration and the linkages between powerful markets, such as U.S.A and Japan stock markets and the influence of these markets to smaller stock markets. The results showed that changes in the stock prices in U.S.A had important influences to the other stock markets.

Mahesh (2005) examined the long-term equilibrium between the developed markets of US, Canada and the UK and the emerging markets of

India, Malaysia, and Singapore using correlation analysis. The main findings was that, based on correlation analysis, only the pairs of Malaysia-Singapore and the US-Canada stock markets exhibited long-run significant positive relationships. By splitting the Johansen test in 3 parts according to the selected sample, developed market or emerging market, all the applicable results confirmed the long term equilibrium. Rivas et al. (2006) used Ordinary Least Squares (OLS) to investigate the responses of the stock markets of Latin American of Brazil, Chile and Mexico to movements in the stock markets in European countries, namely, Spain, Italy, Germany, France and the UK and also used the US market. In the first period (January 1988 to December 1994), returns of Mexico were significantly influenced by the US market, but returns of Brazil and Chile were neither affected by the US nor the European stock markets. The finding that the US market is not exerting any effect over another country seems to be rather peculiar since most studies have agreed that US is the most influential stock market. However, things took a turn in the second (January 1995 to December 1999) and third period (January 2000 to December 2004), where the US stock market was influencing strongly all the stock markets of Latin American countries. The reason attributed to this occurrence was that each market usually responded differently to shocks due to trade links and different institutional structures. It was shown that Mexico was more influenced by the US market because its economy is more similar to that of the US. Spain was found to be the only stock market that had influence over the other Latin American stock markets in the second and third period. According to Bruner et al., (2008) there are indicators of cointegration between countries that can be characterized either as emergent or as emerging, result that confirms the positive correlation between stock markets and the possible further market cointegration.

### 3. Methodology

The first step in our analysis was to calculate the daily returns of the closing prices of all indi-

ces used in our sample. We calculated the returns based on the formula below:

$$r_{i,t} = \ln\left(\frac{Y_{i,t}}{Y_{i,t-1}}\right) = \ln Y_{i,t} - \ln Y_{i,t-1}$$

Then, we calculated the descriptive statistics based on the returns of each index, as well as normality of each time series applying the Jarque-Bera Test based on the statistic:

$$JB = \frac{T}{6} \left[ S^2 + \frac{(K-3)^2}{4} \right] \sim X^2_{(2)}$$

After that, we applied a correlation analysis by calculating the correlation coefficients, so as to distinguish the relations between the different indices. The correlation coefficient between two variables x and y is defined as:

$$\rho_{X,Y} = corr(x,y) = \frac{cov(x,y)}{\sigma_x \sigma_y} = \frac{E[(X - \mu_x)(Y - \mu_y)]}{\sigma_x \sigma_y}$$

With the correlation coefficient taking values in the interval [-1,1] or  $-1 \leq \rho_{x,y} \leq 1$ . If  $\rho=1$  that indicates that there is a perfect positive dependence between the two variables which means that when the variable X is increasing the variable Y is also increasing by the same amount. If  $\rho=-1$ , this indicates that there is perfect negative dependence: in other words, when X is increasing, Y is decreasing by the same amount. When the coefficient is near 1 it is a strong indicator of a strong relation. If  $\rho=0$  this means that there is no linear dependence, but we cannot make clear whether they are independent or not.

The final step in our attempt to examine the long term equilibrium was to apply the Johansen Cointegration Test, which is a very widely used methodology. Below, we are presenting the methodology incorporate the Johansen Cointegration Test in seven steps.

1. The first step includes the examination of the integration order of each time series applying the Augmented Dickey-Fuller test (ADF).

2. After that, it is essential to develop the VAR model using the levels of the time series of the sample. The exactly order of the model will be decided using the information criterion Akaike, Schwartz or Likelihood Ratio.

3. In the third step, we regress the  $Y_t$  and  $\Delta Y_t$  over  $\Delta Y_{t-1}, \Delta Y_{t-2}, \dots, \Delta Y_{t-k+1}$ , gathering the errors of the regression in order to create the vectors  $R_{0t}$  and  $R_{kt}$  with dimensions  $m \times 1$  with the t item of the vectors being the residuals from all regressions of the variables.

4. The Matrices  $S_{00}, S_{0k}, S_{k0}$  and  $S_{kk}$  ( $m \times m$ ) are calculated with the formula below

$$S_{ij} = \frac{1}{n} \sum_{t=1}^n R_{it} R'_{jt},$$

for  $i,j=0,k$  and  $n$  the number of the observation of the sample

5. Then, we calculate the eigenvalues of the following polynomial equation:

$$|\lambda S_{kk} - S_{k0} S_{00}^{-1} S_{0k}| = 0$$

Ordering the eigenvalues of the equation e.g  $\lambda_1 > \lambda_2 > \dots > \lambda_m$

6. Later, we examine the rank of the matrix B (rank (B)) distinguishing 3 cases:

If  $\text{rank}(B)=0$ , then the variables are not cointegrated.

If  $\text{rank}(B)=m$ , then the variables are stationery.

If  $\text{rank}(B)=r$ , with  $0 < r < m$ , then the variables are cointegrated.

Also, the rank of the matrix B is equal to the number of the eigenvalues which are statistically significant different from zero and consequently the calculation of the rank (B) is actually an examination of the significance of the eigenvalues  $\lambda_1 > \lambda_2 > \dots > \lambda_m$  (or the significance of the differences  $\lambda_j$  (for  $j=1,2,\dots,m$ ) from 1. This examination could be made either with the Trace Statistic or with the Maximum Eigenvalue .

<sup>1</sup> As the statistics is greater than the critical value we proceed to the next check until we accept the null hypothesis (statistic < critical value).

The Trace Statistic is calculated as follows:

$$\lambda_{trace}(r) = -n \sum_{j=r+1}^m \log(1 - \hat{\mu}_j), \quad r = 1, 2, \dots, m - 1$$

And the hypotheses are:

Ho: r=0, H1: r≥1 (if  $\lambda_{trace}(r) >$  critical value<sup>1</sup>)

Ho: r≤1, H1: r≥2 (if  $\lambda_{trace}(r) >$  critical value)

.....

Ho: r≤m-1, H1: r≥m (if  $\lambda_{trace}(r) >$  critical value)

Acceptance of the null Hypothesis prerequisites the  $\lambda_{trace}(r)$  to be less than the critical value in a significance level  $\alpha$ .

For the Maximum Eigenvalue we use the formula below:

$$\lambda_{max}(r, r + 1) = -n \log(1 - \hat{\mu}_{j+1}), \quad \gamma \alpha \quad r = 0, 1, 2, \dots, m - 1$$

With

Ho: r=0, H1: r=1 (if  $\lambda_{max}(r, r+1) >$  critical value)

Ho: r≤1, H1: r=2 (if  $\lambda_{max}(r, r+1) >$  critical value)

.....

Ho: r≤m-1, H1: r=m (if  $\lambda_{max}(r, r+1) >$  critical value)

#### 4. Data and empirical results

The data set used in this paper consists of the indices CAC40, DAX, IBEX35, MIB, IGEN, PSI20, FTSE100, FTSE20 (FTSE/ATHX20), Dow Jones and Nikkei. The time period we used in our analysis is five years, December 2011 to December 2016, for daily observation. Table 1 shows the descriptive statistics for the ten indices. More specifically, it presents the average return and the standard deviation for each index and some other fundamental statistical variables.

**Table 1: Descriptive Statistics (1)**

	<b>R_FTSE100</b>	<b>R_DAX</b>	<b>R_CAC40</b>	<b>R_DJ</b>	<b>R_NIKKEI</b>
<b>Mean</b>	0.000141	0.000377	0.0000589	0.000424	0.000402
<b>Median</b>	0.0000706	0.000668	0.0000826	0.000606	0.0000301
<b>Maximum</b>	0.050323	0.052104	0.092208	0.041533	0.048257
<b>Minimum</b>	-0.047792	-0.059947	-0.056346	-0.057061	-0.130515
<b>Std. Dev.</b>	0.009737	0.01258	0.013497	0.009211	0.01349
<b>Skewness</b>	-0.17459	-0.197267	0.019173	-0.433185	-1.043975
<b>Kurtosis</b>	5.630627	5.675144	6.707534	7.122038	11.28827
<b>Jarque-Bera</b>	365.3102	379.3128	713.14	920.3557	3789.724
<b>Probability</b>	0	0	0	0	0
<b>Sum</b>	0.175935	0.468873	0.073281	0.52828	0.500974
<b>Sum Sq. Dev.</b>	0.117951	0.196862	0.22662	0.105554	0.2264
<b>Observations</b>	1245	1245	1245	1245	1245

As we can observe from the table above, all the examined indices had positive but very low average returns. The Dow Jones and Nikkei had the best performance over the examined period and the Dow Jones is the leader. Regarding the

normal distribution of the time series of each index, none of them is normally distributed, as the Jarque-Bera indicated. Additionally, the same conclusion is derived based on the kurtosis and Skewness.

**Table 2: Descriptive Statistics (2)**

	<b>R_MIB</b>	<b>R_IBEX35</b>	<b>R_PSI20</b>	<b>R_FTSE20</b>	<b>R_ISEQ</b>
<b>Mean</b>	-0.000166	-0.000117	-0.000378	-0.000739	0.000399
<b>Median</b>	0.000235	1.75E-05	0.000000	-0.000401	0.000559
<b>Maximum</b>	0.106840	0.134836	0.101959	0.134311	0.075701
<b>Minimum</b>	-0.070442	-0.077245	-0.055071	-0.136689	-0.059544
<b>Std. Dev.</b>	0.016777	0.015748	0.013255	0.022494	0.012100
<b>Skewness</b>	-0.061818	0.394839	-0.033605	-0.009524	-0.185514
<b>Kurtosis</b>	5.417814	9.446581	6.782783	5.728492	5.756187
<b>Jarque-Bera</b>	304.0452	2188.191	742.5368	386.2109	401.2130
<b>Probability</b>	0.000000	0.000000	0.000000	0.000000	0.000000
<b>Sum</b>	-0.206902	-0.145222	-0.470331	-0.92057	0.496819
<b>Sum Sq. Dev.</b>	0.350127	0.308504	0.218572	0.629465	0.182138
<b>Observations</b>	1245	1245	1245	1245	1245

However, in the second set of the indices presented in the table above, we see that all indices had a negative performance in the examined period except for the Irish index. This may be attributed, up to a point, to the macroeconomic instability over the last year. Especially, the Greek stock market has run a downfall after the advent of IMF and the ominous conditions about the Greek economy.

The next step in our analysis is to test the long term relation among the sample through the Johansen cointegration test. However, before doing this, it is vital that we check the stationarity of all time series of the sample. We use the Augmented Dickey Fuller (ADF) test for stationarity. Table 3 presents the results from the ADF test in levels and first differences.

The hypothesis of a single unit root in each index is ac-

cepted at levels but strongly rejected in the first differences of the prices of the index. Thus, like most financial time series, all the data series are integrated of order one, I(1). The models used for the ADF statistics are all with constant and time trend.

**Table 3: ADF -Test**

<b>ADF - Test</b>		
<b>Index</b>	<b>t-Statistic</b>	
	<b>Levels</b>	<b>1st Differences</b>
<b>FSTSE100</b>	-2.014440	-34.29985
<b>DAX</b>	-1.232778	-32.99088
<b>CAC40</b>	-1.996950	-35.12557
<b>Dow Jones</b>	-0.627209	-37.44161
<b>Nikkei</b>	-0.053819	-36.53915
<b>FSTSE20</b>	-1.877348	-32.54546
<b>MIB</b>	-2.196244	-35.46466
<b>IBEX35</b>	-2.232982	-33.51277
<b>PSI20</b>	-1.804307	-31.64184
<b>ISEQ</b>	-0.266774	-26.78419
C.V for acceptance of the Ho for $\alpha=1\%$ -3.435390 and $\alpha=5\%$ -2.863653		

The following two tables represent the results of the Johansen Cointegration Test applied in an attempt to examine the existence of long term equilibrium of the FTSE 20 with the rest indices of our sample. The Table 4 presents the results based on the Trace statistic with a significant level  $\alpha=5\%$ .

librium of the FTSE 20 with the rest indices of our sample. The Table 4 presents the results based on the Trace statistic with a significant level  $\alpha=5\%$ .

**Table 4: Johansen Cointegration Test (1)**

Pair	Hypothesis		Trace Statistic	Critical Value 5%	p-value
	Ho	H1			
FTSE20-CAC40	$r=0$	$r>0$	6.838159	15.49471	0.5965
	$r\leq 1$	$r>1$	2.770106	3.841466	0.0960
FTSE20-DAX	$r=0$	$r>0$	5.014039	15.49471	0.8073
	$r\leq 1$	$r>1$	1.420239	3.841466	0.2334
FTSE20-DOW	$r=0$	$r>0$	3.860173	15.49471	0.9145
	$r\leq 1$	$r>1$	0.712653	3.841466	0.3986
FTSE20-FTSE100	$r=0$	$r>0$	7.256887	15.49471	0.5480
	$r\leq 1$	$r>1$	2.650235	3.841466	0.1035
FTSE20-IBEX	$r=0$	$r>0$	16.71028	15.49471	0.0327
	$r\leq 1$	$r>1$	3.189638	3.841466	0.0741
FTSE20-ISEQ	$r=0$	$r>0$	4.085269	15.49471	0.8965
	$r\leq 1$	$r>1$	0.126258	3.841466	0.7223
FTSE20-MIB	$r=0$	$r>0$	20.32702	15.49471	0.0086
	$r\leq 1$	$r>1$	3.110278	3.841466	0.0778
FTSE20-NIKKEI	$r=0$	$r>0$	3.131326	15.49471	0.9607
	$r\leq 1$	$r>1$	0.042040	3.841466	0.8375
FTSE20-PSI20	$r=0$	$r>0$	29.27575	15.49471	0.0002
	$r\leq 1$	$r>1$	3.601188	3.841466	0.0577

The Ho is accepted for the cases of CAC40, DAX, DowJones, FTSE100, IBEX, ISEQ and Nikkei fact that proves that the index of the large capitalization of the Athens Stock Exchange FTSE 20 does not follow the same pattern with the biggest and most important indices of the global financial system. Also, this proves the different financial and economic approaches the Greek economy applies in its financial sector.

On the other hand, the FTSE20 seems to be cointegrated and consequently in a long term equilibrium with the rest indices of our sam-

ple and more specifically with MIB and PSI 20, which represent the stock markets of Italy and Portugal, respectively. This fact proves that these economies can move in the same pattern and that, observing the basic characteristics of the one of them, an investor can take decision up to a point, for the other markets of the same pattern.

Finally, as it is already expected, the same results for the cointegration of the different indices of our sample derived applying the Maximum Eigenvalue at a significant level  $\alpha=5\%$

## 5. Conclusions

In this paper we tried to find out perspectives of long term equilibrium between the Athens Stock Exchange represented by the index FTSE/ATHX20 and the major financial markets namely CAC40, DAX, Dow Jones, Nikkei and FTSE100, along with the markets of Spain, Italy, Ireland and Portugal, represented by the indices IBEX35, MIB, IGEN, PSI20. We included these markets in our analysis because they show similarities in the economic environment with the Greek market. We applied the Johansen Cointegration test in order to find out long term relations. Before this step, we presented the descriptive statistics of the daily returns of each index for the examined period so as to gather a first insight of the nature of each market. Next step was the stationarity analysis of the time series in order to implement the Johansen test. The results of the test indicate that the FTSE20 and the Greek market do not seem to follow the same patterns with the major financial markets of the world. However, it seems that there is a co-movement of the Greek Stock Exchange with the market of Italy and Portugal. On the other hand, it seems that there is no direct positive correlation in the returns of the Greek Stock Exchange relative to the returns of the markets of neither Spain nor Ireland; this result is surprising since these countries have macroeconomic characteristics more comparable to those of Greece and they have experienced the word consequences of the financial crisis. ■

## References

- Benjamin Miranda Tabak and Eduardo José Araújo Lima (2002), "Causality and Cointegration in Stock Markets: the Case of Latin America", Banco central do Brazil, Working papers Series 56
- Dickey D. A., Fuller W. A. (1981), "Likelihood Ratio Statistics for Autoregressive Time Series With a Unit Root", *Econometrica*, 49, p. 1057-72.
- Dimitrios Balios, Manolis Xanthakis (2003), "International interdependence and dynamic linkages between developed stock markets", *South Eastern Europe Journal of Economics* 1, p.105-130
- Engle R. F., Granger C. W. J. (1987), "Cointegration and Error Correction: Representation, Estimation and Testing", *Econometrica*, 55, p. 251-76.
- Engle R. F., Granger C. W. J. (1991), "Advanced texts in econometrics", Oxford University Press.
- Gjerde, Ø. and Sættem, F.(1995), "Linkages among European and world stock markets", *The European Journal of Finance*, 1: 2, p. 165- 179
- Granger C. W. J. (1986), "Developments in the Study of Cointegrated Economic Variables", *Oxford Bulletin of Economics and Statistics*, 48, p. 213-28.
- Guglielmo Maria Caporale, Andrea Cipollini and Nicola Spagnolo, (2003), "Testing for cointegration: A conditional correlation analysis", London South Bank University
- Johansen S. (1988), "Statistical Analysis of Cointegration Vectors", *Journal of Economic Dynamics and Control*, 12, p. 231-54.
- Johansen S. (1991), "Estimation and Hypothesis Testing of Cointegration Vectors in Gaussian Vector Autoregressive Models", *Econometrica*, 59, p. 1551-80.
- Jin Woo Park (2010), "Comovement of Asian Stock Markets and the U.S. Influence", *Global Economy and Finance Journal* Volume 3. Number 2. p. 76 – 88
- Mahesh, K.T. (2005): A Test of Integration between Emerging and Developed Nation's Stock Markets. *International Finance*, Econ WPA.
- Perron P. (1988), "Trends and Random Walks in Macroeconomic Time Series: Further Evidence from a New Approach", *Journal of Economics Dynamics and Control*, 12, p. 297-332.
- Rivas, A, Rodriquez A. - Albuquerque, P. H. (2006): Are European Stock Markets influencing Latin American Stock Markets? *Analisis Economico*, vol. 21(47), pp. 51-67.
- Sundaram Janakiramanan, Asjeet S. Lamba (1998), "An empirical examination of linkages between Pacific-Basin stock markets", *Journal of International Financial Markets, Institutions and Money* 8, p. 155–173
- Thomas J. Flavin, Fabrice Rousseau (2001), "Explaining Stock Market Correlation: A Gravity Model Approach", *Money, Macro and Finance Conference*, Irish Economic Association
- Tourani Rad, J.-P. Urbain, A. Corhay, (1993), "Common stochastic trends in European stock markets", *Economics Letters* 42, p.p 385-390
- Ulaganathan Subramanian, (2008), "Cointegration of Stock Markets in East Asia ", *European Journal of Economics, Finance and Administrative Sciences*, Issue 14

# Dividend Policy of Greek's Small, Mid and Large Capitalization Companies Before and During Financial Crisis

INVESTMENT  
RESEARCH &  
ANALYSIS  
JOURNAL

www.iraj.gr  
ISSN 1790-8094

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**A**bstract: Dividend policy plays a major role in every firm's following strategy. Indeed, managers deal with the dilemma of distributing dividends or using their profits for reinvestment. On the one hand, dividend distribution reflects a positive image for the company, achieves shareholders' satisfaction and improves company's stock price. On the other hand, retained earnings enable reinvestment and create opportunities for further development. This choice is often referred as "Dividend Puzzle", while many theories have been developed trying to determine the optimal dividend policy.

The overall goal of this paper was to examine the dividend policy of 30 Greek companies of different capitalization levels before the financial crisis (2001-2008) and during the financial crisis (2009-2016). The main questions we are called to answer are "Which is the main dividend policy followed by small, mid and large capitalization companies of Athens Stock Exchange?" and "How has the dividend policy been affected by the financial crisis?"

In the context of this paper we present the definition of dividend, the main dividend policy theories and factors that determine this policy. Furthermore, we analyze the dividend policy followed by the 30 selected Greek companies over the past 16 years using detailed tables and finally, we run a regression model in order to examine the relationship between the value of dividend and capitalization before and during financial crisis.

**Keywords:** Dividend Policy, Cash Dividend, Stock Split, Capitalization, Financial Crisis.

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## 1. Dividend Policy Overview

### 1.1. Dividend Definition and Dividend Policy

A dividend is a distribution of a portion of a company's earnings to a class of its shareholders, decided by the board of directors.

Dividend Policy refers to the decisions that a company is required to take in order to manage its profits. In particular, a profitable company has to decide between distributing these profits as dividends to its shareholders or withholding them for reinvestment, or even combining the above two strategies.

### 1.2. Types of Dividend Policy

#### 1. (Cash Dividends)

Companies pay a share of their earnings to shareholders in units of currency per share. The result of the choice of this policy is a decrease in corporate reserves and residual profits, which is obvious in the company's balance sheet.

#### 2. (Stock Dividends)

It is the payment of a dividend in the form of additional bonus shares of the same company or a subsidiary company which is distributed to the shareholders instead of cash. A  $n\%$  dividend in the form of shares means that the holder receives  $n$  shares for every 100 shares, he already owns.

#### 3. (Stock Split)

The company increases the number of available shares without changing their total nominal value, which implies a reduction in the nominal and stock market value of each share.

#### 4. (Reverse Stock Split)

The company reduces the number of shares in circulation in order to increase the value per share and the stock price of its shares.

#### 5. (Repurchase)

The company buys its own shares, implying that they are underestimated. In this way, it reduces the number of shares in circulation, increases earnings per share and tends to raise the market value of the remaining shares and the current stock market value of the share.

#### 6. (Bond Dividends)

Another way for the company to keep its cash is to issue bonds in order to cover its obligations to its shareholders. This is a postponement of the direct cash payment. Holders of bonds apart from the payment at maturity date also receive interest on their bonds.

#### 7. (Property Dividends)

The company distributes dividends in the form of products or services and they are paid to the shareholder as assets.

#### 8. (Special Dividends)

They are distributed in special cases. Some companies pay these dividends when they have a surplus of cash in order to strengthen the market value of their shares.

### 1.3. Determinants of Dividend Policy

The company's financial managers are responsible for organizing and implementing the dividend policy. They usually have a long-term goal of dividing profits and dividends and they are gradually approaching it in order to avoid fluctuations in dividends.

#### 1) The preferences of shareholders

Shareholders' preferences may be affected by a number of factors. For example, when shareholders are subject to high taxes, it is more likely to prefer earning capital gains rather than receiving dividends. (Terry, M. & Merton, R. (1987))

#### 2) Legal restrictions

-Companies pay dividends only when they have earnings.

-Banks and creditors can limit the level of dividends' payment in order to protect their benefits. (Terry, M. & Merton, R. (1987))

#### 3) Type of Business Activity

When a company's activity has stable demand and stable profits, the company is able to adopt a stable dividend policy. On the other hand, when a company's activity is relevant with luxury goods then it has an irregular flow of income so the company cannot follow a stable dividend policy. (Terry, M. & Merton, R. (1987))

#### 4) Revenue and Stability

A steady growth in dividends is often perceived by investors as a low risk indicator. For this reason, companies prefer a steady development of their dividend policy in order to create a low risk image and manage to reduce the cost of equity.(Miller, M. & Modigliani, F. (1961))

#### 5) Signaling

According to Miller and Modigliani, the amount of dividend provides informative content about a company's prospects and future policy. An unexpected increase in dividends signifies upcoming gains and high future profits for the company. In contrast, a reduction in dividends signifies an upcoming fall in return.(Gordon, J. (1963))

#### 6) Liquidity of the business

The companies don't retain their profits in cash, but they usually invest them in fixed assets or in commodities. Therefore, even if a company shows profits, it may not be able to pay dividends due to its low liquidity.(Gordon, J. (1963))

#### 7) Investment opportunities

Companies with investment opportunities and growth prospects often distribute low dividends, because they prefer using undistributed profits rather than the share capital in order to fund investments. It depends on the ability of the company to have access to the capital markets.(Lintner, J. (1962))

#### 8) Older Dividends

Shareholders expect that the value of dividends will not be lower than the previous one. For this reason, directors are reluctant to reduce the dividend rate of the previous year and, in case they are forced to do it, they try to maintain the dividend rate by paying it with money which came from a previous accumulated profit.(Lintner, J. (1962))

#### 9) Government Policy

Any change to the Government's fiscal policy has a significant impact on business operations. The companies' profits are affected either positively or negatively to this change, so they should adjust their dividend policy at any time.(Lintner, J. (1962))

### 1.4. Dividend Policy Theories

The main theories of dividend policy are the following:

- Dividend Irrelevance Theory (M. Miller & F. Modigliani)
- Bird-in-the-Hand Theory(M. Gordon & J. Linter)
- Tax-Preference Theory(H. Litzenger & K. Ramaswamy)

#### 1) Dividend Irrelevance Theory

This particular theory was created by Miller and Modigliani and was published in 1961 in "The Journal of Business". As the name of this theory reveals, the distributed dividend does not affect the value of the share.According to this theory, there is no "optimal" dividend policy because the value of each company (and therefore its share's price) depends on its investment plan and not on its retained or distributed profits.(Miller-Modigliani,1961)

#### 2) Bird-in-the-Hand Theory

According to this theory, investors choose companies that pay bigger dividends because of the limited risk they include.It is known that dividend profits are more certain than capital gains whose returns include a greater degree of uncertainty. Consequently, investors should prefer companies that offer high dividend income, because a high dividend policy leads to maximization of shareholders' wealth.(Linter,1962) (Gordon,1963)

#### 3) Tax-Preference Theory

This theory claims that investors prefer capital gain rather than dividend profits. Their choice lies in the different tax treatment of dividends which originate from capital gains, because dividend profits have high tax rate. This fact combined with the ability of the investor to postpone the payment of the tax until he decides to sell his shares, leads investors to choose companies' shares that focus on investments so as to earn money that originate from high capital gains and not from dividend profits.(Litzenger- Ramaswamy, 1971)

## 2. Data and Analysis

In this section, we have chosen 10 large capitalization companies, 10 mid capitalization companies and 10 small capitalization companies (total of 30 companies), that are listed in the Athens Stock Exchange (ASE). A presentation of these companies dividend policy before financial crisis (2001-2008) and during

financial crisis(2009-2016) is following, while detailed commentary on the results takes place.

### 2.1. Large Capitalization Companies

Firstly, we present two tables, the first one refers to the dividend policy before the financial crisis and the second one during financial crisis.

Table 2.1.1.: Dividend Policy of Large Capitalization Companies before the financial crisis (2001 – 2008).

COMPANY	2001		2002		2003		2004		2005		2006		2007		2008	
MOTOR OIL	-	-	0.53 Div.	0.2 Div.	0.2 Div.	0.5 Div.	0.2 Div.	0.3 Div.	0.2 Div.	0.65 Div.	0.2 Div.	0.9 Div.	0.2 Div.	0.95 Div.	0.2 Div.	1 Div.
MYTILINEOS	0.29347 Div.	-	0.06 Div.	-	0.05 Div.	-	0.1 Div.	-	0.2 Div.	-	0.4 Div.	0.6 Div.	24/10 St. Spl.	-	0.51 Div.	-
JUMBO	0.073368 Div.	-	0.1 Div.	-	0.12 Div.	-	0.17 Div.	-	0.22 Div.	-	0.23 Div.	-	0.32 Div.	-	0.4 Div.	2/1 St. Spl.
OPAP	0.170213 Div.	0.017608 Div.	0.43 Div.	0.3 Div.	0.4 Div.	0.27 Div.	0.55 Div.	0.43 Div.	0.48 Div.	0.93 Div.	0.55 Div.	0.94 Div.	0.6 Div.	1.03 Div.	0.8 Div.	1.14 Div.
EYDAP	0.211299 Div.	-	0.22 Div.	-	0.1 Div.	-	0.13 Div.	-	0.06 Div.	0.06 Div.	0.07 Div.	-	0.11 Div.	-	0.14 Div.	-
NATIONAL BANK	1.08584 Div.	-	1.1 Div.	-	0.45 Div.	-	0.65 Div.	13/10 St. Spl.	0.6 Div.	-	1 Div.	-	1 Div.	-	0.4 Div.	-
ALPHA BANK	0.909758 Div.	-	0.91 Div.	-	0.4 Div.	-	0.6 Div.	-	0.72 Div.	-	0.84 Div.	-	0.75 Div.	-	0.9 Div.	-
OTE	0.704329 Div.	-	0.7043 Div.	-	0.7 Div.	-	0.35 Div.	-	-	-	-	-	0.55 Div.	-	0.75 Div.	-
MINOAN LINES	0.088041 Div.	-	-	-	-	-	0.02 Div.	-	0.1 Div.	-	-	-	0.135 Div.	-	0.05 Div.	-
FOLLI FOLLIE	0.088041 Div.	-	0.05 Div.	-	0.055 Div.	-	0.07 Div.	-	0.075 Div.	-	0.065 Div.	-	0.065 Div.	-	0.66 Div.	0.59 Div.

Table 2.1.2.: Dividend Policy of Large Capitalization Companies during the financial crisis (2009 - 2016).

COMPANY	2009		2010		2011		2012		2013		2014		2015		2016	
MOTOR OIL	0.2 Div.	0.4 Div.	0.45 Div.	0.25 Div.	0.4 Div.	0.3 Div.	-	-	-	0.2 Div.	-	-	0.15 Div.	-	0.2 Div.	0.5 Div.
MYTILINEOS	0.104442 Div.	-	0.18 Div.	21/20 St. Spl.	-	-	-	-	-	-	-	-	-	-	-	-
JUMBO	0.23 Div.	-	0.1701 Div.	-	-	-	-	-	0.18 Div.	0.18 Div.	23/22 St. Spl.	-	-	-	0.36 Div.	-
OPAP	0.65 Div.	1.4 Div.	0.58 Div.	0.99 Div.	0.96 Div.	0.72 Div.	0.57 Div.	-	0.25 Div.	-	0.17 Div.	0.5 Div.	0.2017 Div.	0.12 Div.	0.57 Div.	0.23 Div.
EYDAP	0.13 Div.	-	0.02 Div.	-	0.04 Div.	0.17 Div.	0.05 Div.	0.15 Div.	0.38 Div.	-	-	0.2 Div.	-	-	0.31 Div.	-
NATIONAL BANK	-	-	-	-	-	1/10 St. Spl.	-	-	-	-	1/15 St. Spl.	1/15 St. Spl.	-	-	-	-
ALPHA BANK	-	-	-	-	-	-	-	-	-	-	-	1/50 St. Spl.	-	-	-	-
OTE	0.75 Div.	-	0.171 Div.	0.1179 Div.	-	-	-	-	-	-	-	-	0.08 Div.	-	0.1 Div.	-
MINOAN LINES	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FOLLI FOLLIE	0.50691 Div.	0.50691 Div.	-	1/1 St. Spl.	-	-	-	-	-	-	-	-	0.100523 Div.	-	-	-

Large cap companies prefer cash dividend with distribution stability over the time. However, stock splits are also chosen occasionally. It is noticeable that some companies combine the two dividend policies, while others distribute cash dividend two or even three times a year. Meanwhile, the cash dividend has always been lower than 1 euro, before and during financial crisis.

It is true that financial crisis has a negative impact even on the largest and well-established companies in ASE. Specifically, 6 out of 10 companies did not continue their dividend policy for one or more years. Despite the difficulties of crisis, there are two

businesses whose dividend policy remained stable. Finally, over the last two years most firms return dynamically to their pre-crisis dividend policy.

All in all, in spite of the large cap companies trial to pursue a stable dividend policy in order to approach investors, shocks and fluctuation in dividends emerged as a result of financial crisis.

### 2.2. Mid Capitalization Companies

In the following two tables, dividend policy of mid cap companies before and during financial crisis is presented.

Table 2.2.1. : Dividend Policy of Mid Capitalization Companies before the financial crisis (2001 – 2008 ).

COMPANY	2001	2002	2003	2004	2005	2006	2007	2008
KARELIA	1.90756 Div.	2.2 Div.	2 Div.	2.2 Div.	2.6 Div.	2.92 Div.	2.52 Div.	2.52 Div.
ATHENS MEDICAL CENTER	0.09978 Div.	0.07 Div.	0.04 Div.	-	0.03 Div.	0.04 Div.	0.06 Div.	0.06 Div.
ANONIMI NAFTILIAKI ETAIREIA KRITIS	-	-	-	0.02 Div.	0.04 Div.	-	0.06 Div.	0.05 Div.
ALUMIL ALUMINIUM	0.070433 Div.	0.018 Div.	0.05 Div.	0.06 Div.	0.06 Div.	0.013 Div.	0.083 Div.	0.14 Div.
GR. SARANTIS	-	-	-	0.07 Div.	0.1 Div.	0.13 Div.	0.13 Div.	0.17 Div.
PLASTIKA KRITIS	0.108584 Div.	0.11 Div.	0.12 Div.	0.12 Div.	2/1 St. Spl.	0.05 Div.	0.065 Div.	0.07 Div.
CRETA FARM	0.029347 Div.	0.03 Div.	0.06 Div.	0.035 Div.	0.07 Div.	0.035 Div.	0.04 Div.	2/1 St. Spl.
KARATZIS	0.044021 Div.	0.05 Div.	0.05 Div.	-	0.055 Div.	-	-	-
KARAMOLEGOS	0.032282 Div.	0.016 Div.	0.02 Div.	0.03 Div.	0.03 Div.	0.03 Div.	0.01 Div.	0.01 Div.
PLAISIO	0.073368 Div.	0.08 Div.	0.14 Div.	0.21 Div.	0.27 Div.	0.25 Div.	0.27 Div.	0.3 Div.

Table 2.2.2. : Dividend Policy of Mid Capitalization Companies during the financial crisis ( 2009 - 2016 ).

COMPANY	2009	2010	2011	2012	2013	2014	2015	2016
KARELIA	6.5 Div.	4.032 Div.	6.3291 Div.	7.6 Div.	8.52 Div.	8.5 Div.	9.3 Div.	8.5 Div.
ATHENS MEDICAL CENTER	0.05 Div.	-	-	-	-	-	-	-
ANONIMI NAFTILIAKI ETAIREIA KRITIS	-	-	1/1 St. Spl.	-	-	-	-	-
ALUMIL ALUMINIUM	0.089 Div.	-	-	-	-	-	-	-
GR. SARANTIS	0.03181 Div.	0.009558 Div.	-	-	-	0.3 Div.	0.15 Div.	0.16 Div.
PLASTIKA KRITIS	0.06 Div.	0.0702 Div.	-	-	-	0.1 Div.	0.045 Div.   0.045 Div.	3/2 St. Spl.   0.1205 Div.   0.1205 Div.
CRETA FARM	0.022 Div.	0.022 Div.	-	-	-	-	-	-
KARATZIS	-	-	0.065 Div.	-	-	0.0522784 Div.	-	-
KARAOLOGOS	0.01 Div.	0.01 Div.	0.01 Div.	0.01 Div.	0.01 Div.	0.01 Div.	0.01 Div.	0.01 Div.
PLAISIO	0.12 Div.	0.108 Div.	0.05 Div.	0.08 Div.	0.12 Div.	0.2 Div.	-	0.08 Div.

Mid cap companies usually choose to distribute cash dividend around the same period per year and they rarely decide to split their stock. The value of cash dividend is less than one euro, apart from Karelia's company.

The impact of financial crisis is noticeable in these firms category. Indeed, 4 out of 10 firms stop distributing dividends during the financial crisis, while 2 out of 10 continue to distribute dividend of lower value. Furthermore, a 20% of companies has been severely affected by in the first years of crisis, but it is recovering over the last years. However,

businesses that have not been influenced negatively also exist.

To sum up, mid cap companies prefer a stable dividend policy but after 2008 cash dividends are significantly reduced and sometimes eliminated. Nowadays, we notice an important recovery concerning mid cap firms' dividend policy.

### 2.3. Small Capitalization Companies

The two tables that follow, present the dividend policy of small capitalization companies before and during financial crisis.

Table 2.3.1. : Dividend Policy of Small Capitalization Companies before the financial crisis (2001 – 2008 ).

COMPANY	2001	2002	2003	2004	2005	2006	2007	2008
ANDROMEDA KALLIERGEIES YDROVION ORGANISMON	0.055759 Div.	-	-	0.1285 Div.   0.05 Div.	0.108 Div.   0.07 Div.	0.14 Div.   0.08 Div.	0.17 Div.   0.1 Div.	0.15 Div.   0.08 Div.
KRIKRI	-	-	-	0.103 Div.	0.13 Div.	0.073 Div.   2/1 St. Spl.	0.1 Div.   2/1 St. Spl.	0.06 Div.   1/1 St. Spl.
KANAKIS S.	-	-	0.06 Div.	0.07 Div.	0.07 Div.	0.07 Div.	0.07 Div.	0.1 Div.
EVROFARMA	0.088041 Div.   2/1 St. Spl.	0.03 Div.	0.03 Div.	0.04 Div.	0.04 Div.	0.02 Div.	-	0.01 Div.
SATO AE	0.058694 Div.	0.029347 Div.	-	0.02 Div.	0.03 Div.	-	0.03 Div.	-
BYTE COMPUTER	0.044021 Div.	0.07337 Div.	0.078 Div.	0.078 Div.	0.08 Div.	0.078 Div.	0.09 Div.	0.09 Div.
DROMEAS	0.269993 Div.	0.28 Div.   20/10 St. Spl.	0.024 Div.	0.016 Div.	0.11 Div.	-	0.05 Div.   2/1 St. Spl.	0.02 Div.
AS COMPANY	0.164343 Div.	0.01482 Div.	0.015 Div.	0.03 Div.	0.03 Div.	0.05 Div.	0.06 Div.	0.08 Div.
KTHMA KOSTA LAZARIDI	-	0.046955 Div.	0.04 Div.	0.023 Div.	0.025 Div.	0.035 Div.	0.025 Div.	0.03 Div.
YALCO- KONSTANTINOY	0.117388 Div.	0.05 Div.	0.011 Div.	0.04 Div.	0.04 Div.	0.038 Div.	0.041 Div.	0.046 Div.

Table 2.3.2. : Dividend Policy of Small Capitalization Companies during the financial crisis (2009 - 2016 ).

COMPANY	2009	2010	2011	2012	2013	2014	2015	2016
ANDROMEDA KALLIERGEIES YDROVION ORGANISMON	-	0.0934839 Div.	-	1/100 St. Spl.	-	0.8 Div.	-	-
KRIKRI	0.054 Div.	17/12 St. Spl.	-	-	-	-	0.06 Div.	0.06 Div.
KANAKIS S.	0.08 Div.	0.18 Div.	-	-	-	0.086273 Div.	0.1 Div.	-
EVROFARMA	-	-	-	-	-	-	-	-
SATO AE	-	-	-	-	-	-	-	-
BYTE COMPUTER	0.053 Div.	-	-	-	-	-	-	-
DROMEAS	-	0.00513 Div.	-	-	-	-	-	-
AS COMPANY	0.08 Div.	0.05 Div.	-	-	-	12/10 St. Spl.	-	1/2 St. Spl.
KTHMA KOSTA LAZARIDI	0.03 Div.	0.009 Div.	-	-	-	-	-	-
YALCO- KONSTANTINOY	0.03 Div.	0.068 Div.	-	-	-	-	-	-

Taking into consideration the above tables, there are many similarities between small cap category and the previous two. First of all, cash dividends are preferred, but stocks splits and reverse stock splits are alternative options. Besides, cash dividend are less than 1 euro, while the majority does not even exist ten cents of euro (0,10€).

The financial crisis that emerges in 2008 in Greece has a significant impact on the dividend policy pursued by small cap companies. Indeed, prior to the financial crisis, most firms distributed regularly cash dividends, but after 2011, 7 out of 10 companies stop paying them. We have to underline that one of the seven firms chooses to split its stocks, dividend policy that is not preferred the previous years. Among the companies that continue to distribute cash dividends, only one paid a relatively high dividend, which is mainly attributed to the reversed stocks split of 1/100 that took place two years before.

Generally, during the time period 2001-2008 small cap companies preferred stable and regular cash dividends. Financial crisis led to changes in their dividend policy. Specifically, companies that

used to pay high dividend have lessened them, while the rest stopped distributing dividends.

### 3. Regression Analysis

It is true that the financial crisis affected significantly the dividend of Greek companies. Even though the size of firms is not considered clearly among the factors of dividend policy, taking into account our previous analysis, we believe that capitalization may influence the dividend policy and the value of dividend. That's why we examine further the relationship between company's size and the value of cash dividends using the simple linear least squares regression model (OLS). To secure representativeness we chose businesses from different categories. In our regression, the dependent variable is the total value of dividends and the independent variable is the size of the company. Using excel tools we calculated beta for each capitalization level before and during the financial crisis. The results of this analysis are presented in the following table.

Table 3.1. : Results of Simple Linear Least Squares Regression Model (OLS) for Large, Mid and Small Capitalization Companies before (2001 – 2008) and during (2009 – 2016) the financial crisis.

	2001 - 2008			2009 - 2016		
	Coefficient beta	t - statistics	p_value	Coefficient beta	t - statistics	p_value
Large Capitalization Companies	4,36067E-11	1,46769653	0,180369591	-2,90277E-11	-1,073901318	0,314187717
Mid Capitalization Companies	3,35823E-08	2,40608446	0,042768714	1,0979E-07	2,484987136	0,03781654
Small Capitalization Companies	9,90257E-09	3,21750392	0,012285125	6,67699E-09	1,73428981	0,121090433

As far as capitalization companies are concerned, the value of dividends is irrelevant to the size of firms both before and during financial crisis as the coefficient  $\beta$  is statistically non-significant at 95% confidence interval for both time periods. In the mid capitalization category there is a positive and statistically significant relationship at 95% confidence interval between these variables in both examined periods. Referring to small capitalization companies, the coefficient  $\beta$  is positive and statistically significant at 95% confidence interval before the financial

crisis, but is statistically non-significant at 95% confidence interval during the financial crisis. In other words, the value of dividends used to be influenced by the size of small capitalization companies prior to 2008, while it remained unaffected during the financial crisis. Therefore, the size of company affects positively the value of dividends only in the case of mid capitalization companies before and during financial crisis and in the case of small capitalization only before the financial crisis, while in the rest cases no relationship is appear.

Briefly:

✓ Large Capitalization Companies: the value of dividends is irrelevant to the size of companies both before and during financial crisis

✓ Mid Capitalization Companies: there is a positive relationship between the value of dividends and the size of companies not only before, but also during the financial crisis.

✓ Small Capitalization Companies: the value of dividends is positively affected by the company's size before the financial crisis, but it is not influenced during financial crisis.

#### 4. Conclusions

Taking everything into consideration, dividend policy is an important part of every business. There are many ways to pursue dividend policy and several theories and factors about the optimal dividend policy. In Greece, it is true that companies mainly choose cash dividend and rarely stock splits or reverse stock splits, regardless their capitalization. The emergence of financial crisis has had a significant impact on dividend policy of Greek companies. Indeed, most of them have reduced the amount of their dividend, while others have stopped distributing dividends. Our regressions analysis indicates that the size of firms affects positively the amount of distributed dividend in the case of mid capitalization companies before and during financial crisis, and in the case of small capitalization companies only before the financial crisis. In all other cases the amount of dividend is irrelevant to the company's size. Lastly, we have to mention that our paper is limited only to Greek companies. Therefore future research on dividend policy of businesses from other countries would be useful, so as to make a comparison among companies both from Europe and all over the world. ■

## References

Vasileiou, D. & Hriotis, N. (2008). Financial Management - Theory & Action. : Rosili. p. 500 – 637.

Lazaridis, G. & Papadopoulos, D. (2005). Financial Management : Long Term Financial Planning and Strategic Financial Decisions of the Company - Part C. Thessaloniki p. 555 – 679.

Gordon, M. (May 1963). Optimal Investment and Financing Policy. *The Journal of Finance*. 18(2):264-272.

Lintner, J. (August 1962). Dividends, Earnings, Leverage, Stock Prices and the Supply of Capital to Corporations. *The Review of Economics and Statistics*. 44(3):243-269.

Litzenberger, R. & Ramaswamy, K. (June 1979). The effect of personal taxes and dividends on capital asset prices : Theory and empirical evidence. *Journal of Financial Economics*. 7(2):163-195.

Miller, M. & Modigliani, F. (October 1961). Dividend Policy, Growth, and the Valuation of Shares. *The Journal of Business*. 34(4):411-433.

Terry, M. & Merton, R. (1987). Dividend Behavior for the Aggregate Stock Market. : *Journal of Business*.

iMENTOR. Available at: <http://www.imentor.gr/>.

# The Social Cooperative Businesses in Greece - Crowdfunding

INVESTMENT  
RESEARCH &  
ANALYSIS  
JOURNAL

[www.iraj.gr](http://www.iraj.gr)  
ISSN 1790-8094

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**A**bstract: The objective of the study is to approach the issue of Social Cooperative Businesses (SCBs) in Greece through a case study, as well as the possibility of financing from crowdfunding. The study's questions are the institutional frame of SCBs in Greek area and its application, as well as the funding sources and the impact of this kind of business on the Greek audience.

**Keywords:** Social Cooperative Businesses, Crowdfunding, Greece

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## 1. Introduction

The last few years the social businesses in Greece have rapid growth, almost the same as the growth of the economic crisis in the country. However, Cooperative Businesses as a form of enterprise have a big tradition in Greece, because of the long engagement with agricultural sector and generally the primary production.

The methodology, which is used, is the analysis of a case study, the «Alpha», SCBs in Thessaloniki. We visited the head office of the business and we got in touch with members, which gave us all the necessary information.

Concerning the structure of the study, it is composed of five parts. First, we worked on the presentation of all the opinions about the sector of SCBs from Greek and international researchers (bibliographic review). Then we referred to the institutional frame of SCBs and Crowdfunding in Greece. Afterwards, we presented the main part of the study which is the case study of «Alpha». Furthermore, the conclusions of the study are listed in details. At the end, we summed up the conclusions and suggested subjects for further research.

In conclusion, this study constitutes an approach to the sector of the SCBs in our country. We hope that our ideas and suggestions will find a response and will be a motivation for the improvement of the operation of the social businesses and the understanding of their importance.

## 2. Bibliographic Review

The article (Ioanna Sotiriou, 28/02/2017) is mentioned at a recent research of the Cooperatives Europe in cooperation with Lama Development and Cooperation Agency about 38 European cooperative businesses and it proved the variant contribution to the economic development as the cooperatives in Europe are 130.000 in all sectors with 127 million members, more than 4 million employees and almost 990 billion Euros annual profit. It is highlighted that the minority of SCBs was created to face the current problems of the local society or the broader districts, also it is supported in the digital technology and in the fact that the SCBs include the trade between

businesses (B2B) in the industrial sector. At the end, it is observed that the 32% of the cooperatives have local action, the 20% regional, the 24% national and the 24% international action and as a result there is a big margin of cooperation between the cooperatives.

The article (Simel Esim, 06/12/2016) deals with the consolidation of the cooperative model in a world scale. The cooperative model according to the International Cooperative Alliance will be the fastest growing business form from 2020 and then. The reasons of the fast growing of the cooperative model are the timelessness and the resilience. The cooperative model is an alternative social and economic solution. It encourages the spirit of peer-to-peer and the reflection in the youth cause of the low business risk, the democratic organization, the focus in “day by day” operation of the business and the promotion of fun through the work. At the end, the cooperatives bridge the gap between the governments and the society’s needs in relation with social care as well as in green economy. In addition, they provide innovative solutions at all the sectors of the humanity, improving by this way the quality of living and increasing, at the same time, the job opportunities.

This research (Thanasis Lakrinitis και Panagiotis Pantos, 30/11/2015) analyzes the characteristics of the human labor which manage the Greek cooperatives and also the importance of the spatial dimension in their establishment and development. Moreover, it is underlined the slow development of the social economy in Greece and the uncompleted application of the law about the “Social economy and the social business (N 4019/2011)”, as it has not been set up the support and funding mechanism, the protective tax regime and more supportive interventions. The article ends up that motivation for creating a cooperative is the unfavorable economic and the unstable political environment the fact that the cooperatives are seeking to create equal labor relations with the common collection of decisions and the provision of opportunities to susceptible social groups.

In addition, another article (Othmar Lehner, 2013) refers to crowdfunding in a relation to the social business. It remarks the difficulty of the

funding of the social business through the traditional resources, which is pushed to alternative funding sources as donates, government grants and crowdfunding. Particularly, it analyzes the advantages of using the crowdfunding, which are the rapid spread of the internet and the social media platforms, emancipation of the crowd, the long term perspective, the limited speculative engines, the active communication with the crowd, the possibility of investing in global level and the decentralization of the power.

Furthermore, the article (KarinFüssl,--) refers to the conference with title « The social businesses and the strategy 'Europe 2020': innovative solutions for a sustainable Europe», in which are noticed the possibilities and the difficulties of establishing the social business. It is mentioned that although the employees of this section are more than 6% of the total number of the employees in Europe, they fail to use the benefits of the market and to compete the traditional economic operators cause of the legal, administrative, financial and political barriers. It highlights the need of mapping the social business, the facilitation of participation in public contracts of the economic operator which has as target to incorporate disadvantaged employees, the adoption of article of association of the European institutions and union and the mobilization of the European social fund.

In the last article (AntonisSvarts, 27/01/2015) is presented the spreading of social business worldwide and the need to create an appropriate ecosystem for its promotion in Greece. At the same time, it is paid attention to the importance of finding capitals through alternative funding resources as angel investors and impact investors, different support organizations of social business such as the Yonus Social Business, which acts abroad, and also new banks focus on social benefit. In conclusion, it refers to the important role of some intermediate organizations (Ashoka), the higher education in the configuration of the youth's mentality, the media with the journalistic coverage of social enterprises and the creation of appropriate standards, the charity institutions by provision of capitals, the speculative businesses which are streaming the social business as a way to strength their public image and also the government which has to configure a more

friendly policy for the social business by tax cut and limitation of the bureaucracy.

### 3. Institutional Framework

#### 3.1. Social Cooperative Enterprises

In order to analyze the institutional framework of the Social Cooperative Enterprises (SCEs), we must first define the concept. By the term SCEs, we mean a new body of the Social Economy, which emerged with the recent law 4019/2011. In essence, it is an urban cooperative with social purpose and has legally commercial property. The term Social Economy refers to all economic, business, productive and social activities, undertaken by companies or associations of people, whose purpose is the pursuit of collective benefits and the service of general social interests.

The Social Economy in Greece has been legally enforced by the law 2716/1999. In this way, the Social Cooperatives Limited Responsibility (SCLR) has a key role in integrating people with psychosocial problems into the labor market. However, SCLR may have productive, consumer, commercial, credit, educational and political services. Legislation concerning the social economy and social entrepreneurship is updated by the law 4019/2011, which establishes a new form of social enterprise, the so-called Social Cooperative Society (SCS). In particular, this type of social enterprise can take the form of an urban cooperative with a social mission and a commercial property. The members of a social cooperative enterprise may be either natural person or collaboration of natural and legal persons.

Some useful factors of the law 4019/2011 for the understanding of social enterprises are:

- (1) The registration of established social enterprises in the Register of Social Entrepreneurship,
- (2) The urban and cooperative nature of social enterprises subjected to civil law and statutes must be signed by seven persons, as required by urban cooperatives,
- (3) The composition of the members is may be at least 2/3 by natural persons and the remaining 1/3 consists of legal entity,

(4) The participation of natural members is not linked to insurance and tax obligations,

(5) The distribution of profits to members is not considered a prohibited activity only if they are at the same time the employees of the company at 37%. The remaining 5% is retained as a reserve and the remaining amount is shared as a gift to increase employee productivity,

(6) The resources can be from: the commercial activities, donations and public organization's contributions.

The institutional framework in Greece can be distinguished in government's policies and the existing legislative framework for the social economy. The first category includes projects, which is designed with the help of the EU, in order to promote social entrepreneurship. For example, the implementation of the European Equal Program, implemented also in Greece, was aimed at increasing the employment of vulnerable groups and creating the right conditions for equal opportunities in the labor market. In particular, this specific initiative was intended to solve a number of issues, such as: 1) the integration and simulation of social groups subjected to discrimination in the labor market, 2) the development of an entrepreneurial culture on social entrepreneurship, 3) the constant adaptation of workers and enterprises to new economic and technical challenges and 4) the avoidance of occupational segregation between men and women. Also, the Greek government has introduced a number of insurance and tax measures. At the same time, a range of financing tools and tax exemptions are available for the amount of profits made by social enterprises for the creation of reserves.

In particular, the determination of the profit of a social cooperative enterprise does not include up to 35% of profits before taxes if paid to its employees. This amount is considered as payment for the employees. The remaining profit is taxed at 29%. The annual trade fee is set at 500 €. The social cooperative enterprises are excluded from the payment of a trade fee during their first 5 years of operation.

The participation of a human being only as a member of a Social Cooperative Society, does

not confer on it a commercial status and does not create insurance or tax obligations. Except of the amount paid for the acquisition of cooperative portion, the member of the Social Cooperative Society has no other responsibility.

### 3.2. Crowdfunding

The crowdfunding is simply the financing from the crowd. We usually refer to the funding of a project or an idea by many people, who offer small amounts of money. The financial target for each project is covered by the total contribution of all the donators. The crowdfunding usually refers to projects with small funding needs.

Crowdfunding is feasible through specific on-line platforms that provide the required transaction security and the necessary tools to manage the campaign. The most famous site is Kickstarter, and there are also various apps such as Indiegogo, RocketHub and Fundly.

Companies will be able to use crowdfunding to finance a project if the following conditions are met cumulatively:

(1) The offer is made exclusively through an electronic system managed by an Investment Firm or a credit institution within the investment service of the receipt and transmission of orders. It is clarified that an electronic system is the electronic platform in which the investment plans of the companies which are seeking for funds are presented on the Internet and in which in the same way orders from investors to participate in their investment plan are received, so as to acquire securities from the companies.

(2) Transferable securities with a total value of less than 500,000 € are offered, a limit calculated per issuer over a period of 12 months.

(3) The participation of a private investor may not exceed 5,000€ or 10% of the average of the declared three-year income per issuer and 30,000 € per year for each Investment Firm of Credit Institution, in order to reduce or disperse the investment risk for the persons who invest on companies' projects through crowdfunding.

The Investment Firm and Credit Institutions are required to provide minimal information,

which includes:

- (1) Information about the issuer
- (2) Overview of business activity
- (3) Information on possible investment plans

#### **4. Case Study: «Alpha»**

The case study refers to a real social cooperative business, which is referred as «Alpha», in order to protect their private information.

##### **4.1. Introduction**

As we have analyzed the Social Cooperative Businesses, we chose for our case study the association «Alpha». This association resides in Thessaloniki and it is a social association which services the neighborhood's needs. We chose this social association because of its location, in order to get in touch with the members and because of its well-organized site that characterizes a right developed business.

What is about the choice of the association's name, it was chosen because of the members' will to discover a new way of living "with dignity and without discounts of ethical values". The structure of the association is horizontal, which means that its members are equal and all the decisions are taken unanimously.

What regards the products and services of the association in its facilities there is a grocery, where someone can find products of local producers and small businesses and products of law and solidarity trade. Furthermore, the strong belief of its members that knowledge is not a merchandise has led to the creation of free lessons and courses of self-learning, such as chess, music and painting courses.

##### **4.2. Interview**

###### **4.2.1. The Setting Up of the Business**

The association was founded in 2012 but the idea of it was created at 2011 by a team of friends. The main aim was the creation of a breadwinning way with self-defining job conditions and at the

same time the social contribution but not in the form of charity.

Basically, the association started with the publication of a series of chess books and the distribution of a small number of products.

The association «Alpha» was one of the first Greek social entrepreneurs and for this reason the knowledge of the meaning of social entrepreneurship and of the Tax Registration Number for social entrepreneurs was limited and a lot of time was needed for its creation. Moreover, the association's accountant helped many other new social entrepreneurs to be created and she also collaborated with many other accountants all over Greece.

Its location was chosen because it is in a densely populated area with diverse kinds of people and it is not in the city center. The members avoided to choose a location in the center of Thessaloniki because there were already similar stores and the neighborhood spirit is not so intense.

###### **4.2.2. Members**

The members of the association «Alpha» are five and every member contributes in a different way. Some members work in this association exclusively while others help indirectly and in the same time they work somewhere else too. Moreover, the members' specialization differs, they are not coming from the same business section. For example one member is accountant and she deals only with the accounting part of the association. Another member is a professional chess player and he contributes to the association with the organization of a chess club and an annual festival and with the publication of the series of chess books. Also, another member is an agriculturist, who helped in the creation of the grocery with her knowledge in terms of the choice, the preservation and the distribution of appropriate products.

Apart from the members, the association «Alpha» has a dynamic team of volunteers, whom they call friends as a reaction to the conventional term "volunteer". Some examples of the contribution of the volunteers are the tutoring in various subjects such as English, Music, Painting, Botany and handmade cosmetics.

#### 4.2.3. Products-Services

The translated by the chess player books are published by the association and they are distributed in specialized chess centers such as schools and chess clubs. These books are originated from a Dutch series of chess books, which is recognized by the Dutch ministry.

These books became popular because of various reasons. The most important reason is that they are innovative, as there was deficiency in the market of a corresponding product with this degree of specialization. Moreover, the experience of the translator, who deals with chess a lot of years and he is a chess professional player played a crucial role. Last but not least, the simultaneous operation of a chess club and the organization of a chess festival helped in the promotion of the book series. The promotion takes place in a special web site because of the specialized audience.

As regards the products that are distributed through the grocery, they are not profitable for the association but their price is increased by a 15% for the producer's price because of administrative reasons (rent, electricity and other costs). Furthermore, the products are not chosen with market criteria but with consumer and personal criteria. These criteria are the way of producing and the working conditions and the locality of the products.

The association prefers products of local markets because they want to support the local producers and these products are ecological and economic.

Inside the convenience store there is also a grocery store, where organic products are sold, and because of their vulnerability, it is necessary to be immediately disposed. The customers are informed for their arrival by e-mail. Furthermore, the social cooperative business organizes periodic educational workshops of informative and practical content that reflect the ideals of the cooperative.

#### 4.2.4. Enterprise Funds

The funds of the cooperative came exclusively from the members. There is no specific amount to be paid by each member, each contributes with whatever amount he wishes, provided that this

amount, which is greater than or equal to the statutory amount determined at 100 €.

The cooperative did not want a state subsidy for political-ideological reasons. Members do not think it is a bad idea to use a subsidy, but they believe that by getting funding they would contribute to the promotion of a bad European subsidy chain. They initially preferred to work without pay in order to maintain their business autonomy. However, they do not deny the possibility of receiving a grant in the future due to the difficulty of surviving the business.

The cooperative did not use alternative sources of funding, such as crowdfunding, but after our suggestion, they responded positively to think about using this particular form of funding later. In addition, it is important to mention that the company did not know crowdfunding as a source of funding. This proves that the crowdfunding is a new financing method, not so widespread in the Greek market.

#### 4.2.5. Expenses of the Social Cooperative Business

Due to the small capital of the cooperative, emphasis was placed on initially meeting the necessary operating costs (rent, electricity, maintenance equipment). The cooperative sought alternative ways of furnishing the space by using recycled and customized furniture. Additional business expenses resulted from the book series due to copyright, sales rates and volume of books that had to be published.

#### 4.2.6. Profit and Reinvestment

The co-operative accountant tried to explain the unfortunate fact that a SCBs while it has members and it is considered speculative, it is not allowed to distribute profits. The profits that a SCB may have reinvested for the next fiscal year but they are taxed at the same time. If someone works in the company gets 35%, but again the business cannot be considered as speculative. Then the accountant points out the need to solve this problem as well as her own personal effort to contribute to this, disclosing the problem and the job of the Deputy Minister.

#### 4.2.7. Payroll

Initially, the working members of the cooperative are paid in kind or working without money. Then this payment method changed and the grocery provided basic necessities free of charges to its employees, and gradually the cooperative “stitched” stamps into what was necessary.

Theoretically, there are three methods of payment: by value, by time and by love. The cooperative belongs to the last category, since the dominant “belief” of the cooperative is that the reward varies with the real need of the employee and not within predetermined salary scales based on hours and workload.

The law provides that a social enterprise may have employees without salary, but they work voluntarily. It has now been decided that a volunteer register will be set up. Members who work and pay should also have Social Insurance Institution stamps. For these reasons workers are paid, the minimum wage thresholds apply as in all other businesses. This adds more to the functioning of the SCBs and for this reason a lot of people say they are not paid while receiving even a minimal amount.

#### 4.2.8. Objectives

The main objective of the SCBs is the continuation of the existence of the social character, which is associated with the direct distribution of products, events, actions and development. It also aims to develop the publishing with the publication of the remaining books of the chess series and its promotion. Additionally, the cooperative would like the publication of new series of books, subject to the personal experience and engagement of a member in the respective field. Finally, the cooperative wants to add new members and new ideas in order to expand their activities.

#### 4.2.9. Strategic Errors & Corrective Efforts

Due to the fact that the cooperative had only a few members, the public relations were underdeveloped. This has led to little resonance from the local community due to ignorance and confusion with the municipality’s social services. In

addition, poor grooming, internal and external, of the grocery contributed to the reluctance of the neighborhood as they were unable to understand the variety of products provided. Initially, it was the effort to promote through newspapers and to create an e-mail list in order to inform the customers about the products provided and the actions.

To remedy the above problems, the cooperative took action. One of the most important events is the organization of an open party each year in order to celebrate the foundation. They organize a variety of activities for the event, such as informative talks and brochures, collective cuisine, activities for children. This event aims for informing the local community and attracting new clients as well as volunteers who are identified with the character of the cooperative.

In addition, they have developed a website to inform the general public and a page on social media. Finally, the immediate plans of the cooperative are to re-shape the interior and exterior of the building so that they attract more customers.

#### 4.2.10 Consumer Behavior

During the conversation, the members of the consensus mentioned that the present consumer behavior depends on the price as well as on the appearance of the products. They believe that this behavior is wrong, because it does not take into consideration important factors such as the quality of the products, the social and environmental impacts, the consequences on health, the production conditions and the size of the business.

It is observed, that customers set as priority the purchase of the commodities and then, they consider products that are beneficial for our health due to the economic crisis. Furthermore, it is pointed out, that the purpose of the consensus is the attraction of the middle and lower consumer category.

#### 4.2.11 Taxation

As the consensus «Allos Tropos» was established, the SCBs were considered as nonprofit and therefore they did not pay any taxes. Nowa-

days, they are considered to be profitable businesses and they pay taxes at a rate of 29%. However, the term “profitable business” is not stable, as the earnings that are theoretically shared between the shareholders are already distributed by 35% to Social Insurance Institution, 60% for reinvestment and 5% for reserve purposes.

Last year, the government voted a law that abolished the vocation payment for 5 years for all the SCBs, which was 1000 €. There is not a relevant decision for the businesses that have already paid this amount of money. To sum up, the legislation regarding such businesses is at an early stage and there are many adjustments.

## 5. Conclusions

From this case study a lot of conclusions can be drawn about the function of the Social Cooperative Businesses in Greece. First of all, the reasons to establish this type of business, are the desire for social contribution as well as the livelihood. This type of business is new and there are many difficulties and vagueness’s on the establishment process. More specifically, the knowledge about what a Social Cooperative Business is, was limited and there were technical difficulties, as well. As regards the fund of these businesses, it can come exclusively from the members (like in our case) or from subsidy. There is not a defined amount that each member should give, except from the minimum amount of 100€ per person. Moreover, we reached the conclusion that there are not pre-defined working hours and liabilities for the employees according to the minimum wage proportion, like all the other type of businesses and that they should provide insurance as it is defined by the State Insurance Institution as well. However, many Social Cooperative Businesses declare as volunteers people, who get paid with a symbolic amount, due to lack of money.

A basic ideology of Social Cooperative Businesses is the promotion of products and services based, not on speculation, but on the satisfaction of the consumer and on the respect of the environment. A common phenomenon is the cooperation between the Social cooperative Businesses, which are held by the same ideology.

As regards the consumer behavior, we realized that consumers when they purchase products they focus on price and appearance and they ignore the way they are produced and their impact on health and environment. We noticed that the institutional framework for these businesses is variable, fact that confuses their operation. In addition, according to the latest law, the Social Cooperative Businesses are characterized as speculative and they are taxed like all other types of businesses. However, this is a contradiction of the fact that they are not allowed to distribute profits and they have to reinvest them for future use.

One of the problems that we dealt with during our case study is the small number of such businesses here in Thessaloniki. This fact has limited our choices importantly. In addition to this, has also contributed the fact that many of the existing Social Cooperative Businesses ceased their operation shortly after their establishment, while others were not well-organized and there was no way to contact them. Furthermore, a difficulty was the changes in the fiscal and legislation framework. Last but not least, the bibliographic research was poor, as there is not a variety of studies on the alternative ways of funding. We aimed to analyze crowdfunding as an alternative way of funding, but the specific SCBs was not informed about what it is and therefore, they could not provide us with the necessary financial information.

To conclude, we want to recommend to future researchers a different approach of our case study that we would have chosen if we had the required information. This approach could be the study of a Social Cooperative Business, which used an alternative way of funding (such as crowdfunding) and did not use only subsidy or member contributions. We believe, that it would be really interesting, because crowdfunding is a rising source of funding that fits the culture of the Social Cooperative Businesses, as it is characterized by active communication with people, decentralization of power and by limited speculative motivation. ■

## References

«Cooperatives as a pillar of development», Ioanna Sotiriou, (28/02/2017), <http://www.efsyn.gr/arthro/oi-synetairismoi-os-pylonas-anaptyxis>

«The role of human factor in Greece of the crisis: The experience of Social Cooperative Businesses», Thanasis Lakrintis και Pnagiotis Pantos, (30/11/2015), [http://repository.edulll.gr/edulll/bitstream/10795/3264/2/3264\\_WP%204.6.7.pdf](http://repository.edulll.gr/edulll/bitstream/10795/3264/2/3264_WP%204.6.7.pdf)

«Crowdfunding social ventures : a model and research agenda», o Othmar Lehner, (2013), <http://www.tandfonline.com/doi/full/10.1080/13691066.2013.782624?scroll=top&needAccess=true>

«What does social entrepreneurship mean for Greece?», Antonis Svarts, (27/01/2015), <http://startupper.gr/%CF%84%CE%B9-%CF%83%CE%B7%CE%B-%CE%B1%CE%AF%CE%BD%CE%B5%CE%B9-%CE%B3%CE%B9%CE%B1-%CF%84%CE%B7%CE%BD-%CE%B5%CE%BB%CE%BB%CE%AC%CE%B4%CE%B1-%CE%B7-%CE%BA%CE%BF%CE%B9%CE%BD%CF%89%CE%BD%CE%B9%CE%BA%CE%AE/>

«Social Cooperative Businesses and Europe», Karin Füssl, (--) <http://koinsep.org/%CE%B5%CE%BD%CE%B7%CE%BC%CE%B5%CF%81%CF%89%CF%84%CE%B9%CE%BA%CE%BF%CF%85%CE%B-%CE%B9%CE%BA%CE%BF/%CE%BA%CE%BF%CE%B9%CE%BD-%CF%83-%CE%B5%CF%80-%CE%BA%CE%B1%CE%B9-%CE%B5%CF%85%CF%81%CF%89%CF%80%CE%B7/>

« The international Labor Organisation for Social Cooperative Businesses » , Simel Esim – ILO (06/12/2016), <http://anemosananeosis.gr>

«Crowdfunding: the new source of business finance, (01/10/2016), <http://www.kathimerini.gr/877312/article/oikonomia/ellhnikh-oikonomia/apoyh-crowdfunding-h-nea-phgh-xrhmatothshs-toy-epixeirein>

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ISSN 1790-8094