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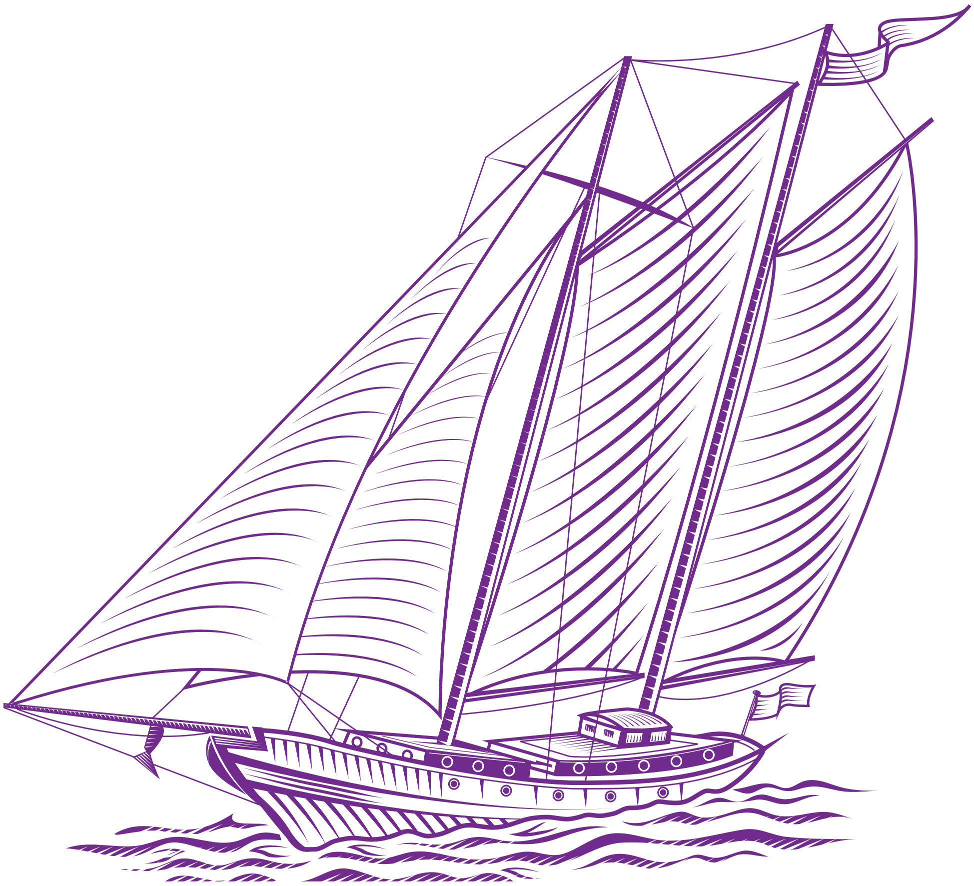

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THE IMPACT OF THE STATEMENT OF GAAP FOR SME'S IN SOUTH AFRICA

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ABSTRACT. Even though various support initiatives for small and medium enterprises (SMEs) have been introduced in recent times, there are also many limiting characteristics of SMEs, such as a lack of 'formality' in terms of accounting procedures. The introduction of International Financial Reporting Standards (IFRS) made it even more difficult for SMEs to adhere to accounting requirements. In 2007 the International Accounting Standards Board (IASB) proposed less stringent reporting requirements for SMEs with the release of the exposure draft on IFRS for SMEs and South Africa became the first country to formally adopt these reporting requirements as a Statement of GAAP. In this study the impact of these reporting requirements on SMEs are explored, based on the current South African SME's reporting and disclosure practices. It was found that there is a considerable difference between the contents of the Statement of GAAP for SMEs and current reporting for SMEs.

Key words: Accounting, Accounting Practice, International Financial Reporting Standards, SME Accounting, Small GAAP.

JEL classification: M41, M49, P12,

Introduction

Background

Ever since small, medium and micro-enterprises (SMMEs) have been identified as an important vehicle to address the challenges of job creation, economic growth and equity, the development of SMMEs has been a South African Government priority as a way to achieve sustainable and equitable growth (White paper, 1995:3). Furthermore, the South African Government's Reconstruction and Development Program (RDP) identified SMMEs as a key social and economic development area (White paper, 1995:4)., with SMMEs encompassing around one million diversified

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enterprises that provide job opportunities for around 25% of South Africa’s 15 million strong labour force (White paper, 1995:5) and further research in this area was encouraged (White paper, 1995:14; DNT, 2001:27). As a result, the legal and regulatory environments, access to markets, finance and business premises, the acquisition of skills and managerial expertise and appropriate technologies and business infrastructure have been identified as areas of concern. In addition to these concerns, a key characteristic was the lack of 'formality' in terms of business licenses, tax registration, formal business premises and accounting procedures (White Paper, 1995:11).

The importance of the small and medium enterprises (SME) sector has also been internationally recognised. During the latter parts of 1990’s in the United Kingdom (UK), this sector earned annual turnovers of around £1,000 billion (or 45% of the total private sector economic activity) and accounted for 99% of registered businesses. In recognition of this reality, the UK Government introduced its Small Business Service to actively promote the further development of this sector (Johnston & Loader, 2003:273). Furthermore, in the European Union an overall policy position towards the SME sector was adopted, which included the development of more competitive market structures, the removal of legal and administrative constraints on SMEs and encouraging simplified SME accounting procedures (Mulhern, 1996:77).

Shortcomings in the accounting function is globally seen a key constraint facing this sector. Research in the UK found that an inadequate financial accounting function was one of the major reasons for failure in SMEs’ (Randall & Horsman, 1997:42). In support hereof, Peacock (2000:21) also found a significant relationship between business failure and inadequate accounting records for Australian SMEs.

Theoretical framework

Regulatory accounting development

Since its formation in 1973 the International Accounting Standards Committee (IASC) developed 41 International Accounting Standards (IAS). Since the replacement of the IASC by the International Accounting Standards Board (IASB) in 2001, the IASB has developed a further eight International Financial Reporting Standards (IFRS) in addition to the existing 41 IASs, resulting in a total of 49 international accounting standards (Sowden-Service, 2007:5). In pursuit of its objective to develop a single set of high quality, global accounting standards, the IASB cooperates with the national accounting standard-setters in many countries and as of March 2004, a total of 92 countries have agreed to assist in the development of such standards (Sowden-Service, 2007:4; Taylor, 2003:27).

In 1993 the South African Accounting Practice’s Board (APB) committed itself to eliminate the differences between South African accounting standards and international accounting standards. To that effect, it was decided to issue IFRSs without any amendments as South African accounting standards as from February

2004, with the result that South African accounting standards issued ever since are identical to the relevant IFRS issued by the IASB (Vorster *et al.*, 2007:2).

Even though legal backing for accounting standards has been introduced in countries such as the USA, Canada, the UK, Australia and New Zealand, such backing in South Africa remained uncertain until the end of 2006. As a result of proposals by the King Committee on Corporate Governance in 1994 (King I) and in 2002 (King II), it was decided to give such legal backing by comprehensive proposed amendments to the Companies Act, 1973 (Vorster *et al.*, 2007:5). However, at the time of this study these amendments have still not yet taken effect. It is therefore possible that non-publicly listed South African companies and close corporations are currently not complying with accounting standards due to:

- uncertainty regarding the legal backing of the accounting standards for entities incorporated in terms of the Companies Act, 1973 and
- no specific requirement to comply with accounting standards for entities incorporated in terms of the relevant act (Close Corporations Act, 1984).

Development of differential reporting

The introduction of IFRS and the alignment of South African accounting standards thereto made it even more difficult for SMEs to adhere to accounting procedures and requirements due to the comprehensive disclosure requirements when compiling IFRS financial statements. It was therefore suggested that an alternative set of accounting requirements be developed for private companies, SMEs and other smaller entities (Zanzig & Flesher, 2006:1; Stainbank & Wells, 2005:55).

A key difference between publicly listed companies and private companies can be seen in the relationship between the company and its accountant. In the case of publicly-listed companies the (public) accountant primarily serves the interests of *external parties* such as the shareholders and other stakeholders. In contrast, in private companies (including SMEs), the primary relationship is between the accountant and the *client* (Zanzig & Flesher, 2006:2). Barrar *et al.* (2002:213) also found that publicly-listed companies normally have efficient in-house accounting departments as opposed to the smaller companies for which an outsourced accounting function often proved to be more beneficial.

When evaluating company financial statements, Collis and Jarvis (2000:12) and Falk *et al.* (1976:1) found that finance providers are interested in amongst others, the following:

- In the case of private companies the balance sheet disclosures tend to be important, while in contrast to publicly-listed companies the income-statement items tend to be more important.

- Information regarding the company's obligations, such as contingent liabilities and commitments, leases and long-term debt, is typically very important.
- The disclosure of accounting policies, particularly with regard to changes in accounting methods, is considered important.
- Commercial lending officers often encourage their customers to have audited financial statements.

Even though Wilson (1980:1) indicated that the key users of SME financial statements do not have much different informational needs than those of publicly held entities, there was little evidence of research into the types of decisions being made by the users of SME financial statements. In 1995, the Private Companies Practice Executive Committee of the American Institute of Certified Public Accountants (AICPA) joined the debate by claiming that one of the most significant concerns of its members practicing in small firms is that of accounting standards overload (Zanzig & Flesher, 2006:4). As a direct result of these concerns, the Private Company Financial Reporting Task Force commenced with research into (Zanzig & Flesher, 2006):

- Whether the financial statements of private companies prepared in accordance with GAAP meet the financial reporting needs; and
- whether the cost of providing GAAP financial statements is justified considering the benefits provided to private-company constituents.

The task force concluded that, in certain circumstances, it would be useful if the underlying accounting requirements for non-public companies were different than those for public companies. In addition, the it was also found that, although respondents rated certain GAAP requirements low on decision/relevance usefulness, respondents did appear to believe that the benefits of complying with GAAP outweigh the costs. Their recommendation relating to differential accounting for private companies was furthermore supported by the inadequacy of having a single set of GAAP that is geared for public companies, as well as the different reporting environments between public and private companies. In line with the South African government support for the economical development of SMEs as mentioned earlier, the FASB Chairman, Robert Herz, made the following statement in 2005 (Zanzig & Flesher, 2006:7):

"Private companies are a vital force in the nation's economy and it is, therefore, critical that their financial reporting be conceptually sound, cost effective, and provides relevant, reliable and useful information."

Even though the findings by the Private Company Financial Reporting Task Force made a crucial contribution towards the concept of GAAP for private companies, it should be noted that the Task Force is based in the USA. Questions can be asked as to whether the accounting environment in the USA also applies to other parts of the world, in particular to developing countries. Powell (2007:1) noted the impact of different cultures and ethical environments on the harmonisation of the accounting standards in emerging economies, such as in Bangladesh where international donor pressure resulted in a very difficult and less successful implementation of IFRS. Furthermore, in other developed economies, such in Australia (Holmes *et al*., 1991:125) and Canada (Mersereau, 2002:1), research found that a comprehensive set of reporting requirements are not necessarily appropriate to all companies and compliance therewith can result in substantial costs being incurred without sufficient benefit. More recently, Burgess (2007:14) also emphasised the need for separate accounting standards to apply to private companies which publish general-purpose statements but are not otherwise publicly accountable. In 2000 a discussion paper issued by the South African Institute of Chartered Accountants (SAICA) entitled “Limited Purpose Financial Statements” proposed lesser disclosure requirements for companies that are closely held and controlled by owners and whose financial statements are only available to a limited user audience (SAICA, 2000:4).

If differential reporting is adopted, the basis of differentiation should be decided upon. In the UK, Australia and New Zealand differentiation was initially based on the size of an entity (Heymans, 2000:1). According to Heymans (2000:1) the pivotal issue of differentiation is however based on whether financial statements are prepared for general use (typically those of publicly traded enterprises) or for limited use (typically owner managed enterprises). In addition, if accounting rules are differentiated, one also needs to decide whether differentiation should be restricted to disclosure or whether recognition and measurement issues should also be considered. Heymans (2000:1) concluded that relief should only be provided for disclosure and should not be extended to recognition and measurement issues around SME accounting. In 2001 SAICA issued a paper on the distinction between small and large enterprises which concluded that qualitative measures, i.e. user informational needs, are the appropriate criteria for determining which entities should qualify to prepare financial statements in accordance with limited purpose financial reporting standards (SAICA, 2001:6).

IFRS for Small and Medium Size Entities

The South African Statement of GAAP for SMEs was based on the UK developed IFRS for SMEs issued as an exposure draft (ED) in February 2007. Even though the contents of the ED have been criticised in the UK (Mackintosh, 2008:83; Temkin, 2007:1).), the original text of the proposed IFRS for SMEs has been adopted in South Africa without any change. The APB has decided that in applying the Statement of GAAP for SMEs, the following applies (SAICA, 2007:1):

- **Companies**: The Statement of GAAP for SMEs may be applied by 'limited interest companies', as defined in the Corporate Laws Amendment Act, 2006, provided they do not have public accountability as defined in Section 1 of the Statement of GAAP for SMEs.
- **Entities other than companies required to comply with a reporting framework** (other than Statements of GAAP): Such entities cannot apply the Statement of GAAP for SMEs even if they do not have public accountability as defined in Section 1 of the Statement of GAAP for SMEs.
- **Entities other than companies not required to comply with a reporting framework**: If such entities do not have public accountability, as defined in Section 1 of the Statement of GAAP for SMEs, they should assess whether it is appropriate to apply the Statement of GAAP for SMEs.

According to SAICA (2007:2) the Statement of GAAP for SMEs is approximately 15 percent the size of a full set of IFRS/SA GAAP, watering down the 41 IASs and 8 IFRSs into a single accounting statement (see annexure A for the detailed sections of the Statement of GAAP for SMEs).

Problem statement and hypothesis

It can not be denied that the South African SME sector is an important contributor to the overall economy. Major characteristics and constraints identified for this sector include a lack of proper accounting systems and adherence to a comprehensive list of accounting requirements (White paper, 1995:7). A key objective of the IFRS for SMEs is to develop a set of high quality, understandable and enforceable global standards for this sector (SAICA, 2007:4). Therefore, the primary research question, from the preparers of SME financial statement's perspective, can thus be formulated as follows:

P_1: To what extend will the IFRS for SMEs (known as the Statement of GAAP for SMEs in South Africa) be able to address the reporting needs of the SME sector?

Based on this problem statement, the following research objectives have been formulated:

- To determine the reporting requirements from the perspective of the South African *preparers* of SME financial statements; and
- To determine the extent to which the contents of the IFRS for SMEs are *currently included* in the SME financial statements.

A crucial step in the development of new legislation is the evaluation of the various legislative proposals and consultation with the stakeholders (DoJ, 2004:1). If legislation is enacted without such evaluation and consultation, the proposed legislation might not meet its objectives. Likewise, if SME accounting and financial reporting standards are introduced without a proper evaluation and consultation, it is likely that its ultimate objectives will not be achieved. Based hereupon, the following testable hypothesis can be formulated:

H_1: The current proposed IFRS for SMEs will only be able to address the reporting needs of SME sector in South Africa to a limited extent.

Material and method

Research method

The research was conducted in two stages encompassing both a literature and empirical study. The first stage literature study was aimed at setting the scene and providing the theoretical framework for the current development and status of SME accounting and reporting standards, both from international and South African contexts. The empirical stage was the exploratory study of an ongoing research project into the current perceptions and practices of SME accounting practitioners and was performed in two phases:

- **Gauging preparer perceptions**: During the first phase, a survey was conducted at a recent North West regional member forum of the South African Institute of Professional Accountants (SAIPA). The target population was the approximately 110 members of the SAIPA North West region, of which 42 members participated in the project, resulting in a 38% response rate.
- **Evaluating the current practices**: During the second phase, a sample of financial statements were analysed in the context of the Statement of GAAP for SMEs. This analysis was completed on 20 sets of financial statements compiled by different SME practitioners, based on the target sample identified in phase 1 above and included financial statements compiled by various accounting firms throughout the North West region in South Africa.

Data collection

The first phase's research questionnaire was developed based on the underlying literature study and consisted of ten questions, utilising an appropriate four-point Likert-type response scale (See annexure B for the complete questionnaire). In order to meet its objectives, the structured questionnaire had three objectives, namely i) to understand issues around the current status of reporting, ii) to understand the users' informational and decision making requirements, and iii) to gauge the implications of compliance with the Statement of GAAP for SMEs.

During the execution of the second phase of the empirical study, a comparative analysis was completed by analyzing the contents of current SME financial statements with the content requirements of the Statement of GAAP for SMEs.

Empirical results

Phase 1: Research Questionnaire results

The following section provides the results and analysis of the responses received. Figure 1 below presents the accounting average of the total responses received in respect of each of the questions posed.

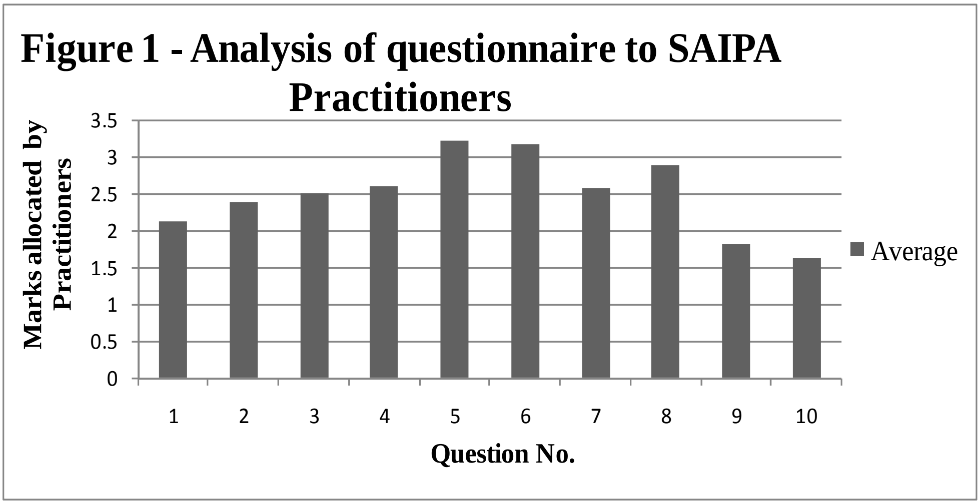
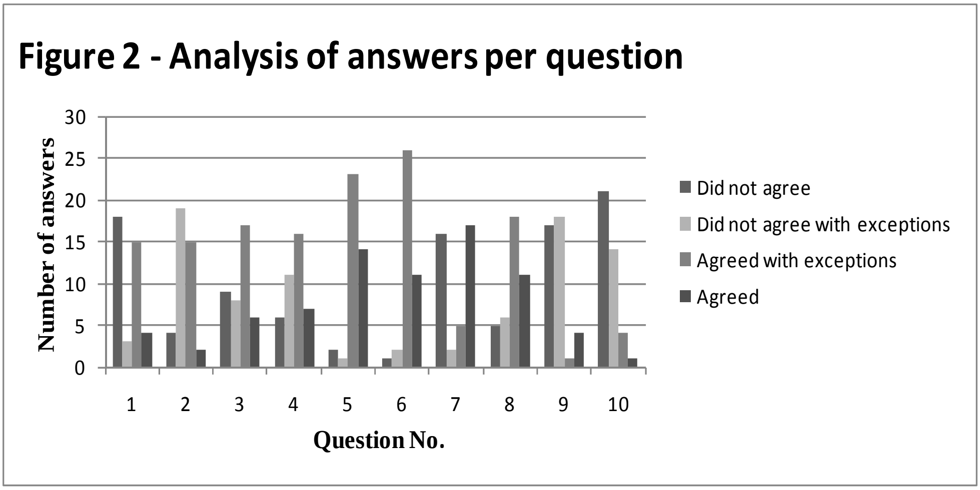


Figure 2 below provides further analysis of the answers by providing the relative responses received in each of the scaled indicators for each of the questions posed. The average marks in figure 1 were based on the individual answers in figure 2.



Section I: Issues around the current status of reporting

Question 1 asked about the practitioners' ability to compile useful SME financial statements and question 2 enquired about the practitioners' ability to interpret fellow practitioners' prepared financial statements. The responses received to these questions resulted in the calculation of the following accounting averages (Figure 1 and 2):

- **Question 1 (score 2.125):** Subject to exceptions it would therefore seem as if the responding SAIPA members do not have total confidence to compile financial statements that is useful for decision-making purposes without specific reporting regulations.
- **Question 2 (score 2.375):** Furthermore, no clear answer was obtained with regards to the interpretation of financial statements of fellow-practitioners as the average answer was almost between the two extremes. Conversely, it could be argued that almost 50% of practitioners finds it difficult to interpret colleagues' financial statements.

Section II: User's informational needs and decision making

In the second section, question 3 asked the members whether they consider decision making at SMEs similar as at larger enterprises while question 4 enquired whether they consider the users of financial statements of small and large enterprises are essentially the same. Question 5 asked whether the practitioners consider the preparation of SME statements as mainly for the providers of business finance, while question 6 focussed on whether SME statements are primarily used to evaluate the overall business. Based on the responses received to these questions, the following accounting averages were calculated (Figure 1 and 2):

- **Question 3 (score 2.5) and question 4 (score 2.6):** No conclusions could be reached regarding decision making and users of financial statements for small and large entities. The average answer obtained for both questions was mid-way in-between the two extremes.
- **Question 5 (score 3.225) and question 6 (score 3.175):** Subject to exceptions, the majority of the respondents were of the opinion that financial statements for small entities are mainly compiled for the bank and other providers of finance and that the income statement is mainly used to evaluate a business. This finding seems to be in line with that of by Rossouw and Watson (2008).

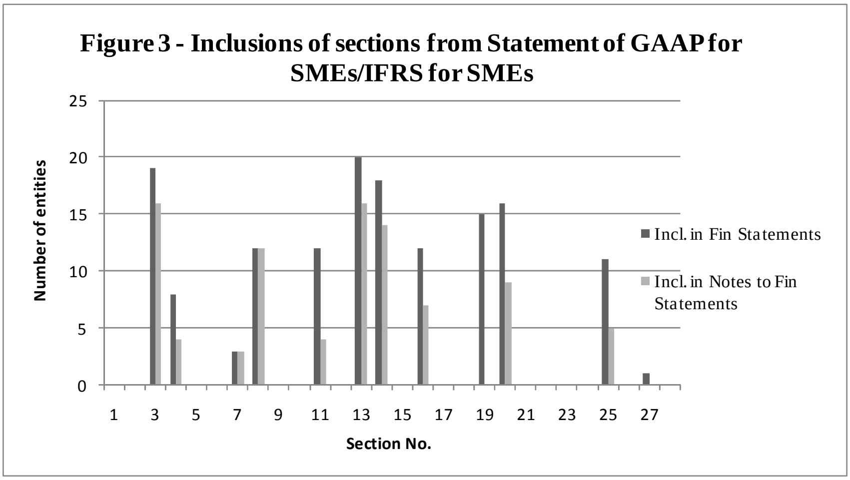
Section III: Implications of compliance with the Statement of GAAP for SMEs

In the final section, question 7 enquired from the members whether they had the opportunity to comment on the statement before it was introduced. Question 8 asked whether they consider that compliance to the statement would be of long-term benefit to their clients, while question 9 asked whether their clients would be willing to pay more for compliant financial statements, and finally question 10 enquired about the perceived benefit of such compliance. Based on the responses received, the following accounting averages were calculated (Figure 1 and 2):

- **Question 7 (score 2.575):** No clear answer was obtained as to whether SAIPA practitioners had the opportunity to comment on the Statement of GAAP for SMEs. The average answer obtained was almost half-way in-between the two extremes. Of particular concern is the fact that the answer could also be interpreted as a considerable number (approximately 50%) of members who did not participate (comment) in the developing process of the Statement of GAAP for SMEs.
- **Question 8 (score 2.875):** The number of members who were of the opinion that compliance with reporting standards would result in goodwill with their clients was marginally more than those opposing this statement.
- **Question 9 (score 1.8):** Subject to exceptions the majority of members indicated that they cannot charge their clients more for more complete and technically correct reporting.
- **Question 10 (score 1.625):** Subject to exceptions more or less the same number of members than question 9 was also of the opinion that a tax saving carries more weight than technically correct financial statements.

Phase 2: SME Financial Statement Disclosure Analysis

The following section presents the findings of the analysis of current SME financial statements to gauge their compliance with the requirements of the Statement of GAAP for SMEs. Figure 3 below illustrates the inclusion of the sections of the Statement of GAAP for SMEs in the sample of financial statements (see Annexure A for the detailed sections of the Statement of GAAP for SMEs).



Based on the analysis in figure 3 it was found that the following sections from the Statement of GAAP for SMEs were not included at all in the sample of financial statements:

Table 1.

Sections not included in sample of financial statements

Section	Topic
1	Consolidated and Separate Financial Statements
2	Changes in Accountings Policies, Estimates and Errors
5	Investments in Associates
6	Investments in Joint Ventures
9	Intangible Assets other than Goodwill
10	Business Combinations and Goodwill
12	Provisions and Contingencies
15	Government Grants
17	Share-based Payments
18	Impairment of Non-financial Assets
21	Hyperinflationary Economics
22	Foreign Currency Translation
23	Segment Reporting
24	Events after the End of the Reporting Period
26	Earnings per Share
28	Discontinued Operations and Assets held for Sale

A total number of 16 sections, representing 57% of the total number of sections of the Statement of GAAP for SMEs were not included by the sampled financial statements. It therefore appears that, based on the above information, SMEs' *do not* i) hold majority or significant investments in other entities (sections 1 and 5), ii) enter into joint ventures and business combinations (sections 6 and 10), iii) change accounting policies and estimates, nor do they correct any errors (section 2), iv) have any intangible assets (section 9), v) disclose any provisions and contingent liabilities nor report on events after the balance sheet date (sections 12 and 24), vi) overstate its tangible assets (section 18), vii) properly disclose its discontinued operations and non-current assets held for sale (section 28), viii) make use of government grants, or provide share-based payments, foreign currency translation, segment reporting or earnings per share (sections 15, 17, 22, 23 and 26) or ix) experience hyperinflationary economic situations (section 21).

The following sections from the Statement of GAAP for SMEs were included in the sample of financial statements (ascending order as per number of inclusions):

Table 2.

Sections partially included in the sample of financial statements

Section	Topic	No. of entities (inclusion in financial statements	No. of entities (inclusion in the notes)
27	Specialized Industries (Agriculture)	1	0
7	Investment Property	3	3
4	Inventories	8	4
25	Related Party Disclosures	11	5
8	Property, Plant and Equipment	12	12
11	Leases	12	4
16	Borrowing Costs	12	7
19	Employee Benefits	15	0
20	Income Taxes	16	9
14	Revenue	18	14
3	Financial Assets and Liabilities	19	16
13	Equity	20	16

The following additional points were noted when the data was analyzed. Employee benefits only included short-term benefits in the form of salaries and other remuneration. There were no provisions for leave or related expenses. Long-term benefits were also not included and only in one case were it noted that deferred tax was disclosed.

It appears, based on the above information, that the majority of the SMEs included the following sections from the Statement of GAAP for SMEs in the financial statements, namely i) income Taxes (section 20), ii) revenue (section 14), iii) financial assets and liabilities (section 3) and iv) equity (section 13). The majority of the entities did not disclose supporting notes/accounting policy notes for the following sections, namely i) income taxes (section 20), ii) employee benefits (section 19), iii) leases (section 11) and iv) related party disclosure (section 25).

Discussion and conclusion

Section I: Issues around the current status of reporting

Burgess (2007:14) identified the need for separate accounting standards for private companies and related SMEs which publish general-purpose statements but are not otherwise publicly accountable. It was found that the majority of members do not feel comfortable to compile financial statements without prescribed accounting requirements or related accounting guidance. Furthermore, approximately 50% of the respondents indicated that they find it difficult to interpret financial statements compiled by colleagues. It could therefore be argued, based on this exploratory study that accountants of SMEs require accounting guidance applicable to their unique environment that is not as stringent and difficult to apply.

Section II: User's informational needs and decision making

In support of Wilson (1980), the research revealed that SAIPA practitioners do not have different informational needs when compiling financial statements for SMEs. Contrary to the conclusion by Falk *et al.* (1976) it was revealed that, from the perspective of SAIPA practitioners, the income statement is more important when evaluating a business.

Section III: Implications of compliance with the Statement of GAAP for SMEs

The exploratory study revealed that a considerable number of members did not participate in the development and subsequent adoption of the Statement of GAAP for SMEs (approximately 50%). It is therefore not clear whether the accounting environment from an SME background was indeed incorporated in the

Statement of GAAP for SMEs, or whether it is merely a scaled down version of the full version of the accounting rules and regulations applicable to public and large entities.

The study also revealed that a considerable number of sections of the Statement of GAAP for SMEs was not included in the sample of financial statements compiled for SMEs. From the total sections included in the Statement of GAAP for SMEs a total number of 57% was not included in the sample of financial statements at all. Although further research might indicate otherwise, possible explanations for the omitted sections were formulated as follows:

- Consolidated and separate financial statements, investments in associates, investments in joint ventures and business combinations and goodwill, segment reporting and earnings per share could have been omitted due to the small nature of SMEs.
- Hyperinflationary economics and foreign currency translation could have been omitted based on the fact that SMEs are not subject to hyperinflationary conditions in South Africa. In addition to this the omission might also indicate that SMEs in South Africa do not enter into transactions with entities abroad.
- The omission of changes in accounting policies, estimates and errors, provisions and contingencies and events after the end of the reporting period remains unclear. It is for example reasonable that such errors would occur at (at least) some SMEs. Further research should be conducted into the reason for the omission and the current accounting treatment of the above-mentioned.
- The omission of intangible assets other than goodwill, impairment of non-financial assets and discontinued operations and assets held for sale could also not be properly explained. Further research should be conducted into the accounting treatment of the above-mentioned and to evaluate if the above-mentioned omissions are not perhaps incorrectly classified as part of property, plant and equipment.
- The omission of government grants and share-based payments could also not be explained. Further research should be conducted to find explanations why government grants are not applicable to SMEs in view of various support initiatives by the South African government for SMEs. In view of Black Empowerment Economic (BEE) regulations in South Africa the lack of share-based payments could also be investigated.

In addition to the above-mentioned omissions the disclosure for the following sections appears to be incomplete and/or inadequate, including employee benefits other than salaries and other short-term remuneration, deferred tax, leases and related party disclosures. In further support of the findings by the Private Company Financial Reporting Task Force in connection with the benefits of complying with GAAP the research revealed that although compliance with reporting standards might have certain positive outcomes, several similar issues are also identified in the South African environment, including an unwillingness of clients to pay more for technically correct reporting and the fact that a tax saving carries more weight than technically correct financial statements.

Limitations and future research

The major limitation from this exploratory study is the diverse environments in which SMEs operate. It is therefore suggested that further research is conducted to address the i) impact of different legislative environments and countries in which SMEs operate, ii) impact of different backgrounds and perceptions of SME accountants relating to compliance with accounting standards, iii) impact of different cultural backgrounds and its impact on the accounting environment in which SME accountants operate, iv) inclusion of sections of the Statement of GAAP for SMEs in the financial statements of SMEs in other environments and v) experience gained by accountants of SMEs.

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Annex A – Statement of GAAP for SME sections

The following sections are included in the Statement of GAAP for SMEs (SAICA, 2007:3):

1.	Scope	21.	Equity
2.	Concepts and Pervasive Principles	22.	Revenue
3.	Financial Statement Presentation	23.	Government Grants
4.	Balance Sheet	24.	Borrowing Costs
5.	Income Statement	25.	Share-based Payments
6.	Statement of Changes in Equity and Statement of Income and Retained Earnings	26.	Impairment of Non-financial Assets
		27.	Employee Benefits
7.	Cash Flow Statement	28.	Income Taxes
8.	Notes to the financial statements	29.	Hyperinflationary Economics
9.	Consolidated and Separate Financial Statements	30.	Foreign Currency Translation
		31.	Segment Reporting
10.	Accountings Policies, Estimates and Errors	32.	Events after the End of the Reporting Period
11.	Financial Assets and Liabilities	33.	Related Party Disclosures
12.	Inventories	34.	Earnings per Share
13.	Investments in Associates	35.	Specialised Industries
14.	Investments in Joint Ventures	36.	Discontinued Operations and Assets held for Sale
15.	Investment Property		
16.	Property, Plant and Equipment	37.	Interim Financial Reporting
17.	Intangible Assets other than Goodwill	38.	Transition to the IFRS for SMEs
18.	Business Combinations and Goodwill		
19.	Leases		
20.	Provisions and Contingencies		

Annex B – Research Questionnaire

Name: ______________________________ Tel: ______________________________

Please allocate marks to each question as follows:

1. Do not agree
2. Do not agree subject to exceptions
3. Agree subject to exceptions
4. Strongly agree

SECTION I: Issues around the current status of reporting				
1. I am able to compile financials statements that would provide the users thereof with relevant information for decision-making purposes.	1	2	3	4
2. I find it difficult to interpret colleagues and fellow practitioners' financial statements when a new client is taken over.	1	2	3	4
SECTION II: Users' informational needs and decision making				
3. Decision making at a small enterprise is in essence the same as that of a large enterprise.	1	2	3	4
4. The users of financial statements of a small enterprise are in essence the same than the users of a large enterprise.	1	2	3	4
5. With a small enterprise financial statements for decision-making purposes are mainly compiling for the bank and other providers of finance.	1	2	3	4
6. At a small enterprise the income statement is mainly used to evaluate a business.	1	2	3	4
SECTION III: Implications of compliance with the Statement of GAAP for SMEs				
7. I had an opportunity to comment regarding the contents of the Statement of GAAP for SMEs.	1	2	3	4
8. Compliance with reporting standards would result in the long term in goodwill with my clients.	1	2	3	4
9. My clients are willing to pay more for more complete and technically correct reporting.	1	2	3	4
10. Technically correct reporting carries more weight than a tax saving.	1	2	3	4

BUCHAREST STOCK EXCHANGE POSITION WITHIN THE CENTRAL AND EASTERN EUROPEAN REGION

CORNELIA POP[1]

ABSTRACT. At the end of November 2010 Bucharest Stock Exchange celebrated 15 years of contemporary/ modern history since its re-opening for activity in November 20th 1995, after it has been closed in 1948 due to the nationalization process imposed by the communist regime.

After a slow start, Bucharest Stock Exchange registered and important growth between January 2003 and June 2007, and yielded spectacular results for its investors. Thus, when compared with neighboring countries, Romanian capital market ranks at the same level with Slovenia, one of the smallest country in the region. Furthermore, Romania and its capital market are included in the category of *frontier markets* by well known international companies like Standard & Poors's and MSCI-Barra.

Romania, along with other small countries from European Union, must face the question regarding the development direction, consolidation and integration of its capital market and should take into consideration the fact that this capital market might not necessarily be relevant in European Union context.

The present paper will present Bucharest Stock Exchange evolution, asses its current position inside the country and at regional level and will try to identify its future evolution perspective, taking into account its present standing.

Key words: national stock exchange, frontier market, investor base, exchange cooperation, Bucharest Stock Exchange.

JEL classification: G10, G15, O16

Introduction

Romania, as a European Union (EU) member country can benefit from the adaptive response of this regional grouping of states to the changes and challenges of the global economy. Romania, along with the other 11 countries that joined EU in 2004 and, respectively, in 2007, must face the important question about the direction of development, consolidation and integration of its domestic capital market, a market which might not be a relevant one in the EU context, as Iorgova & Ong (2008) highlighted in their study regarding other domestic capital markets from Central and Eastern Europe region.

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Romania's position as EU member state brought, along with various advantages, an increased competition for Romanian capital market. Romanian authorities in charge with domestic capital market development must deal with at least two important aspects highlighted by various studies:

- given the growing integration process of financial markets within Europe and the rest of the world, the long-term sustainability of the national capital markets might be in doubt, as highlighted by Berglof & Boltan (2002). The problem is common for all the domestic (relatively small) capital markets in the geographical area of Central, Eastern and South-Eastern Europe.
- the advent of Markets in Financial Instruments Directive (MiFID) under the Financial Services Action Plan (FSAP) of European Commission is likely to raise the critical size needed for exchanges to attract and to retain liquidity and to generate revenues necessary to invest in the needed technology (Haas 2007).

The enforcement of MiFID starting with Nov.1st 2007 is expected to generate an increased competition pressure, mainly on relatively small exchanges (Skinner 2007), like the exchanges functioning in Romania. The MiFID influence will be felt mainly due to the following facts:

- the directive eliminates the 'concentration-rule' and this situation enhance the competition among the existing exchanges;
- alternative trading venues – defined as Multilateral Trading Facilities (MTFs) will become more heavily regulated and will become important competitors for the existing exchanges;
- another category of competitors, which will have a direct impact on the existing exchanges' market share are the Systematic Internalisers (the investment banks/ financial institutions that internalize client orders and cross these against their own books) as potential providers of trading venues.

It will be reasonable to assume that some of the Europe's smallest exchanges will suffer significant reduction in trading volume and revenue. Under the strain of fierce competition, the future of small national capital markets is under question.

Several arguments are in favor of further development and improvements of domestic capital markets; among them, the following were considered relevant:

- national capital markets are important for the respective economies because they offer a place for domestic companies and government institutions to raise capital mainly from domestic, smaller investors that cannot afford to be present in multiple markets (Andritzky 2007; Stultz 2009). National capital markets will perform better if the local companies and government institutions can finance themselves at a lower cost than elsewhere. This argument is supported by the fact that investment continue to show substantial home bias: investor continue to channel an important proportion of their available resources toward securities issued and traded in their own home country. Investment appears to follow the ‘gravity model’ which shows that investors hold securities in geographically closed companies; this phenomenon has been shown to hold across countries (Li, Yan and Faruqee 2004) and confirmed by the recent studies of Rey (2008) and Kho, Slutz and Warnok (2009).

- maintaining and deepening a national capital market might generate several advantages for smaller companies; given the relative high cost of foreign listing and other administrative and cultural factors, a better access to domestic equity finance can help local companies to develop and grow (Andritzky 2007). O’Hara (2001) suggests that national capital markets should focus mainly on these smaller domestic companies.
- for most countries, stock and derivative exchanges are a source of national pride (O’Hara 2001) and economic development. An important number of studies support either the idea that national capital markets lead to faster economic growth or a two-way causality. Economic growth leads to and increased demand for financial services and also attracts further investment. Among the most recent studies in this field, supporting the relationship between economic growth and the development of capital markets are Black & Levine (2004) and Ang (2008).

The aspects mentioned above trigger the following questions:

✓ is there a future for small domestic stock exchanges in the region of Central and Eastern European countries, which are also EU member states?

✓ which will be the future for Bucharest Stock Exchange (abbreviated BVB[2] from now on) taking into account its inclusion in the category of *frontier markets*?

Review of literature

A vast body of academic literature focus on various aspects of emerging capital markets, but only a relative small number of studies take into consideration the determinant factors of capital/ stock markets development and evolution in emerging economies, while even fewer have as main subject the domestic capital markets.

Most of the studies which take into consideration capital or stock markets development and evolution in emerging economies are under the form of surveys and include a large number of emerging countries. Among these: Claessens et al.(2001) presenting the level of development and the economic determinants for stock markets in transition economies; Mathieson & Roldos (2004) are highlighting the problems of

[2] The BVB abbreviation comes from the Romanian name of the exchange: Bursa de Valori Bucuresti and it is preferred by the authors in order to avoid any confusion with similar possible abbreviation for Bucharest Stock Exchange, which are Budapest Stock Exchange, Bratislava Stock Exchange, and Bulgarian Stock Exchange.

local securities and derivative markets in emerging economies; Ramswany (2004) analyzing emerging equity markets as alternative investments for foreign investors and as alternative sources for domestic funding; O'Hara (2001) study investigates the market microstructure and how this should guide the design of equity markets in developing countries. Most recently, Jaramillo (2010) analyzed the determinants of investment grade status in emerging markets.

Another category of studies concentrate on the same topics mentioned above, but at regional level. Chosen to be mentioned, in relation with the topic of the present paper, are the following: Lemierre (2002) presenting the regional developments in securities markets; Bonin & Watchel (2003) showing the level of capital market development in transition countries at the end of the 1990s; Silagy et al. (2004) presenting the perspective on the emerging European financial markets; Dvorak & Podpiera (2005) trying to asses the impact of European Union (EU) enlargement on the evolution of stock exchanges in the accessing countries; Irving (2005) assessing the expected results of the regional cooperation and integration in Eastern and South Africa, Fonteyne (2007) presenting the advantages of integrating the domestic financial markets in a single financial market at European level; Yartey (2008) presenting the institutional and macroeconomic determinants in stock markets development using a panel of 42 emerging economies for 1990-2004 and applying the results on African countries; Iorgova & Ong (2008) overviewing the trends in the European region for the local capital markets and presenting the factors that have contributed to their growth and effectiveness; Huseynov (2010) reviews the market structure of major stock exchanges in eight members of Countries of Independent States group.

The Romanian capital market was included in the category of frontier markets by three of the most important financial information providers: FTSE – The Index Company, Standard & Poors's, and MSCI-Barra Company. As a consequence, a trial was made in order to identify the academic literature concerning this topic of frontier markets. Only several studies could be found: Speidell & Krone (2007) and Speidell (2008 and 2009) analyzing the frontier markets as diversification opportunities for international investors and their behavior when frontier markets are concerned; another small group of studies are focused on risk and return inside frontier markets – Girard and Sinha (2008), Groot et al.(2010a and 2010b).

The studies concentrating on domestic/ local capital markets identified and consulted are: Szalkai (2001) concentrating on Hungarian financial markets; Marone (2003) presenting the case of Lusaka Stock Exchange and its low impact on Zambian economy; Billmeier & Massa (2007) focusing on Egyptian Stock Market, Andritzky (2007) assessing, through the case of Slovenia, the capacity of small emerging economies to develop thriving capital markets.

The body of literature covering various subjects regarding BVB and in connection with BVB was growing slowly but steadily for the past 5 years. The following studies are approaching various aspects of BVB evolution: Kaznovsky

(1999), Pop & Dumbrava (2006), Skully & Brown (2006), Obreja-Brasoveanu et al. (2008), Matei (2008), Pop, Curutiu and Dumbrava (2009). Only two studies – which are continued by the present study – tried to asses the BVB position among the stock exchanges in the region: Pop and Delaney (2010a and 2010b).

The structure of the present paper

The present paper is a survey of BVB evolution over the past 15 years and is based on data available in public reports. The paper presents Romanian capital market landscape, BVB position among the other Romanian exchanges, BVB evolution during the past 15 years, the Romanian investor base and the position of BVB compared with Central and Eastern European exchanges.

Romanian capital market landscape during the 1990s and the first decade of 2000s

The privatization process in Romania had a very slow start and several years were necessary to make it work. Only between 1994 and 1995 the first wave of privatization was registered – having as root the free distribution of 30% of State owned shares in an important number of Romanian companies[3]. By June 1995, the number of companies privatized using the certificates distributed to Romanian population, along with selling of State owned shares toward associations formed by companies' employees, generated the critical mass of outstanding shares that could trigger the need for a secondary market where the respective equities could be exchanged.

Bucharest Stock Exchange (BVB)

Bucharest Stock Exchange (BVB) was re-established[4] and started trading (with only 8 listed companies) November 20th 1995. Between November 1995 and December 2005, BVB had the status of an institution of public interest and was under the administration of BVB association of (Romanian) brokerage companies; the membership regime was an open one. BVB demutualized in January 2006 and during May 2010 BVB announced it received the approval to list its own shares. BVB always was a regulated market and it is under the supervision of Romanian National Securities Commission.

[3] The free distribution of 30% of state owned shares took the form of privatization certificates – of a fixed value of 1,000,000 ROL - which were distributed during 1992, 1993 and 1994 to all the Romanian population having at least 18 years old. Those certificates could be subscribed at any of the companies that the Romanian government announced to be under privatization process. While it seemed simple, the process became complicated by the lack of proper management in the collection and registration of the options expressed by Romanian people, and due to lack of proper information regarding the complete list of companies under privatization and all the available alternatives.

[4] Bucharest Stock Exchange was first opened for trading December 1st 1892. It was closed in 1948 due to the nationalization process that started during that year under the imposed communist regime.

Since the re-start of its activity in November 1995, one of BVB's goals was to list and trade only good quality companies and imposed listing requirements regarding the capital level, profitability, and a minimal free float for accepted companies, along with an imposed level of transparency. The number of BVB listed companies grew steadily, reaching by the end of 1999 the level of 127. Despite the important growth in number from 8 to 127 in the space of 4 years, BVB's listing conditions kept an important number of privatized companies away form its trading venue.

RASDAQ

In order to allow the listing of a higher number of Romanian companies, a second exchange was established and started trading during November 1996. The second trading venue's name was RASDAQ and had as main model the American NASDAQ, as it functioned during the early 1990s. RASDAQ was considered to be an OTC market; had a very permissive listing requirements and the level of supervision was more relaxed. RASDAQ managed to absorb for listing the majority of the privatized companies. However, the low quality level of listed companies and/ or the limited interest their field of activity generated among investors, represented problems difficult to overcome and the following table 1, showing parallel evolution of BVB and RASDAQ enhance the low profile of the second trading venue.

Table 1.

The number of listed companies and the market capitalization at BVB and Rasdaq (as December of every year)

	No of listed companies at BVB	No of listed companies on RASDAQ	BVB market capitalization (mil.EUR)	RASDAQ market capitalization (mil.EUR)
1995	9	-	77.61	-
1996	17	1,561	48.35	n/a
1997	76	5,367	706.1	1,670.9
1998	126	5,496	402.1	894.7
1999	127	5,516	336.6	1,058.6
2000	114	5,382	450.5	872.7
2001	65	5,084	1,361.1	1,188.5
2002	65	4,823	2,646.5	1,764.9
2003	62	4,442	2,991.0	1,943.7
2004	60	3,998	8,818.8	2,064.3
2005	64	3,683	15,311.4	2,241.3
2006	58	2,420	21,414.9	3,126.4
2007	59	2,019	24,600.8	6,985.7
2008	58	1,753	11,629.8	3,079.1
2009	69	1,561	19,052.7	2,937.7
2010	74	1,309	23,892.2	2,526.5

Source: BVB data (http://www.bvb.ro/TradingAndStatistics/DailyMarketReport.aspx)

Between 1997 and 2001, BVB and RASDAQ considered being in competition. Though, RASDAQ's low level of transparency, the difficulties faced by investors to find information regarding the listed companies, the occurrence of periodic speculative bubbles involving a small number of companies, and the rumors regarding frauds and stolen shares being trades on this market, transformed the OTC market in a minor player of Romanian capital market. The poor quality of an important number of listed companies was another factor that left its mark on RASDAQ trading activity.

RASDAQ market officials tried to diversify the offer between 1998 and 2000 by launching the possibility of trading in Romanian bank deposit certificates. The attempt failed: the fixed-income instruments were not popular in Romania at that time, the yield curve was almost impossible to be traced due to lack of information (except the information offered by the Romanian National Bank for interbank monetary market), no rating was available and the number of issued certificates was very small.

However, the fact that RASDAQ played a role in the process of shareholders concentration, in spite the fact that it allowed this concentration to happen trough highly speculative and questionable trading, can not be denied.

In a trial to enhance its position and image, RASDAQ officials decided that it should become a fully regulated market in 2003, when it also changed its name in: Electronic Exchange RASDAQ. The situation improved slightly, but not at the expected level. During 2004 discussions began with BVB for a future merger. The merger became effective starting with January 2006. Since then, RASDAQ is part of BVB, still having separate daily reports and its data are considered separately from BVB data.

Due to its relative minor role and importance at Romanian capital market level, RASDAQ will not be analyzed inside the present paper.

Sibiu Stock Exchange – SIBEX (former BMFM Sibiu)

July 1997 marked a diversification of Romanian capital market landscape through the emergence of Monetary, Financial and Commodity Exchange Sibiu (Bursa Monetar Financiara si de Marfuri Sibiu or BMFM Sibiu)[5] considered being the first Romanian derivative exchange. However, the first years of activity at Sibiu were under the influence of lack of clear regulations regarding the derivative exchanges in Romania, the absence of a supervising body and no clear regulations regarding the clearing house. The situation changed for the better after new regulations

[5] BMFM Sibiu was formerly known as Bursa de Marfuri Sibiu (Sibiu Commodity Exchange) and first started spot trading on various commodities at the beginning of 1995. The opportunity to develop inside the derivative products niches was considered during 1996 and by mid 1997 the first futures and options contracts were launched, while the Sibiu exchange changed its name to reflect the new trading profile.

were issued during 2000; the supervising body was stated to be the same as in the case of BVB and RASDAQ, the Romanian National Securities Commission and a clearing house was established.

BMFM Sibiu changed its name again in SIBEX sometimes between 2006 and 2008[6]; as a consequence the new name will be used from now on.

During 2006, BVB and SIBEX representatives negotiated a merger between the two exchanges, but the idea was abandoned due to divergent opinions.

During 2007, Warsaw Stock Exchange acquired a small stake of 1.81% of SIBEX shares; however, this position enabled a close co-operation between the two exchanges. In order to diversify its activity and as a response to the launch of futures contracts trading at BVB, SIBEX announced during 2008-2009 that it will launch its own platform for trading Romanian shares. SIBEX share trading platform became operational at the beginning of 2010; starting with January 2010 SIBEX is listing its own shares under SBX symbol and by September 2010 a second Romanian company chose to list its shares at SIBEX. SIBEX also announces that double listing at Warsaw Stock Exchange is available for all the companies that chose SIBEX as a trading venue for their shares. However, the share trading is almost negligible compared with SIBEX main activity: trading futures and options on futures.

During February 2011, BVB announced its intentions to reopen the merger negotiations with SIBEX. A merger between the two exchanges would be a logical solution for a stronger and better diversified capital market at Romania's level and by joining forces, a combined Romanian exchange could gain more visibility and a better position within Central and Eastern European region, and at EU27 level.

Table 2 below presents the evolution of derivative contracts at SIBEX and the futures contracts at BVB. As it can be seen, a decade dedicated to derivative trading put SIBEX in a clear advantage when compared with futures trading at BVB.

Table 2.

Volume of futures and option contracts at SIBEX and volume of futures contracts at BVB[7]

	SIBEX			BVB
	Futures and options volume	Futures (%)	Options (%)	Futures volume
1997	77,877	n/a	n/a	-
1998	193,336	n/a	n/a	-
1999	175,142	n/a	n/a	-
2000	205,288	n/a	n/a	-
2001	188,973	n/a	n/a	-
2002	292,369	n/a	n/a	-
2003	187,914	n/a	n/a	-

[6] A data for this name change could not be established using the official reports published by the exchange.

[7] An attempt was made to compare the trading value registered by the two exchanges for the listed derivative contracts, but SIBEX does not offer complete information and data are discontinued for 2008 and 2009 when annual and monthly reports were used as information source.

	SIBEX			BVB
	Futures and options volume	Futures (%)	Options (%)	Futures volume
2004	75,174	n/a	n/a	-
2005	707,738	98.35	1.65	-
2006	4,268,710	99.14	0.86	-
2007	3,490,923	99.00	1.00	64
2008	3,618,766	98.89	1.11	18,018
2009	2,483,287	97.89	2.11	15,613
2010	1,637,794	98.92	1.08	25,099

Sources: http://www.sibex.ro/docs/despre/raport_de_activitate_2010.pdf, other SIBEX reports available at: http://www.sibex.ro/index.php?p=despre&lang=ro&s=6&su=1&d=1 and http://www.bvb.ro/TradingAndStatistics/GeneralStatistics.aspx?tab=5&m=0

From the brief presentation made within this paragraph, BVB can be considered the main Romanian market for equity trading, while SIBEX is the main trading venue for derivatives. A brief visit of the dedicated BVB and SIBEX website will give an important advantage to BVB due to a better structure and more detailed information available.

The relative low level of Romanian investor sophistication tends to give preference to equity trading and during the past 5 years BVB diversified the listed products (as it can be seen from the following paragraph), in a trial to keep its dominant position within the Romanian capital market landscape.

BVB evolutions over the past 15 years

The following table 3 tries to present a synthesis of the main developments BVB undergone between November 1995 and December 2010, covering a period of 15 years.

Table 3.

Main developments at BVB between Nov.1995 and Dec.2010

Main date	Market segment	Further development date	Developments within the segment
1995, Nov. 20th	**Equity market** was launched and trading started with 8 listed companies		
		1997, Jan. 28th	First category (tier) was created to enhance the status of Romanian blue chip companies
		1997, Sept.22nd	BET (Bucharest Exchange Traded Index) was launched; portfolio including top 10 most liquid shares
		1998, Apr.21st	BET-C (BET-Composite) was launched – including all listed shares

Main date	Market segment	Further development date	Developments within the segment
		1999, Nov.1st	The 5 Romanian closed-end funds generated by the privatization process, called SIFs[8], start listing at BVB first category
		2000, Nov.1st	BET-Fi (BET-Financial) index was launched; portfolio included only the 5 SIFs (SIFs were not included neither in BET nor in BET-C portfolios)
		2005, January	First rights were traded
		2005, March	ROTX index was launched in collaboration with Vienna Stock Exchange; it is an underlying asset for derivative contracts in Vienna
		2007, Nov.19th	3rd category was introduced in order to rank better the quality of listed shares
		2008, Feb.14th	Erste Bank start parallel listing at BVB within the International category under the symbol ESB[9]
		2008, Jul.1st	Two new indices are launched: BET-XT with a portfolio of 25 blue chips, including SIFs, and BET-NG, a sector index for companies in energy sector or related to it
2001, Nov.	**Bond market** segment started its activity – trading the first two municipal bond issues		
		2003, May	Romanian corporate bonds started trading
		2006, Sept.	International bonds[10] issued for the Romanian market became available for trading
		2008, Aug.	Romanian government bonds (T-bonds) were introduced for trading

[8] The 5 Romanian Financial Investment Companies – called in Romanian Societati de Investitii Financiare, from where the abbreviation SIFs (used also in the present paper) – started their existence November 1st, 1996 under the Law no.133/ 1996. The mentioned law stated the transformation of the former 5 Private Property Funds (or PPFs) in SIFs Due to the fact that they became public limited companies which have under their management important portfolios of assets (mainly Romanian shares) to which subscribed an important number of Romanian citizens, SIFs can be considered closed-end funds.

[9] Erste Group Bank, Austria, is the majority shareholder of Romanian Comercial Bank (Banca Comerciala Romana), one of the most important Romanian Banks, controlling between 25% and 30% of Romanian retail banking market.

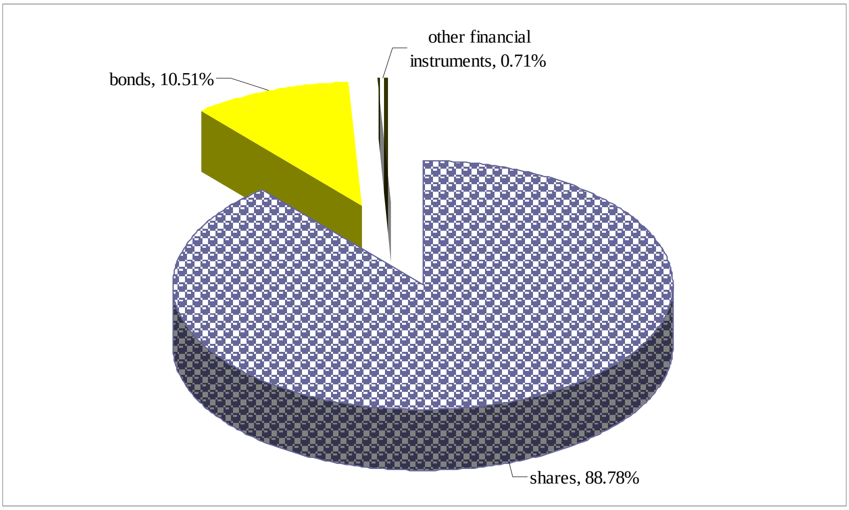
[10] The international bonds were issued successively by the International Bank for Reconstruction and Development, the European Bank for Investment and by the European Bank for Reconstruction and Development. All issues were dedicated for Romanian market and were denominated in Romanian currency (Romanian new leu or RON).

Main date	Market segment	Further development date	Developments within the segment
2007, Sept.	**Futures contracts** were launched for trading within their dedicated sector		By the end of 2010, 42 futures contracts were available for trading
2008, Sept.	The market **segment** dedicated to **exchange traded funds (ETFs)** was launched		By the end of 2010, 5 ETFs were available for trading
2010, Jul.8th	The segment for **structured products** was launched		Only structured notes (translated in Romanian as 'certificate) were admitted for trading. Those structured notes were issued by Erste Group Bank and Raiffeisen Centrobank. By the end of 2010 a number of 24 structured notes were available for trading

Source: author's compilations based on information available at www.bvb.ro

The structure of BVB main market, where the above mentioned developments took place, is presented in the following graph 1. It is constructed based on the turnover (trading value) registered by each market segment between November 2001 (when bond trading started) and December 2010. The category 'other financial instruments' includes: rights, futures contracts, ETFs and structured products.

As it can be seen, shares are the dominant traded instruments on BVB main market. The contribution of bonds is growing slowly, while the other financial instruments can be considered still 'new' – like the ETFs and the structured products and only the years to come will establish their position within the BVB main market.



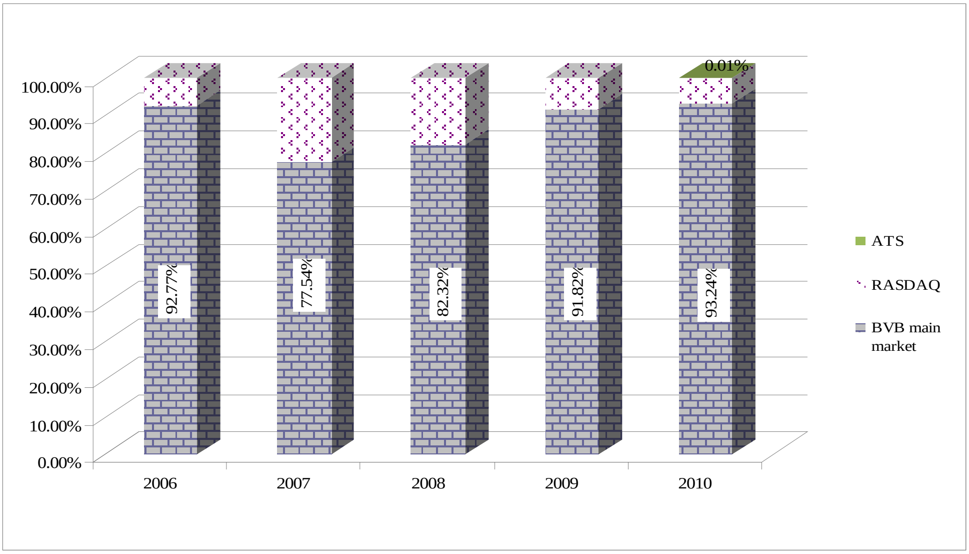
Graph 1. BVB main market structure between Nov.2001 and Dec.2010 (average %)

Source: author's calculation based on data available at www.bvb.ro

As presented above, BVB merged with RASDAQ market, by absorbing it. RASDAQ remained a distinct market, with different trading rules, different listing requirements and for which separate reports were issued for the past 5 years, since January 2006 when the merger became effective. On RASDAQ market, only shares and rights were traded. Between January 2006 and December 2010, a number of 2200 companies were delisted from RASDAQ; some companies (a very small number) were transferred for listing at BVB, while the others were eliminated due various reasons, mainly the lack of attractiveness in the eyes of investors.

However, in time, the RASDAQ market is supposed to disappear and to be replaced by the newly launched, during Nov.2010, Alternative Trading System (ATS) which, currently, has listed only one international company, Daimler AG (trading symbol: DAI).

Graph 2 presents the importance of each market hosted by BVB, based on turnover.



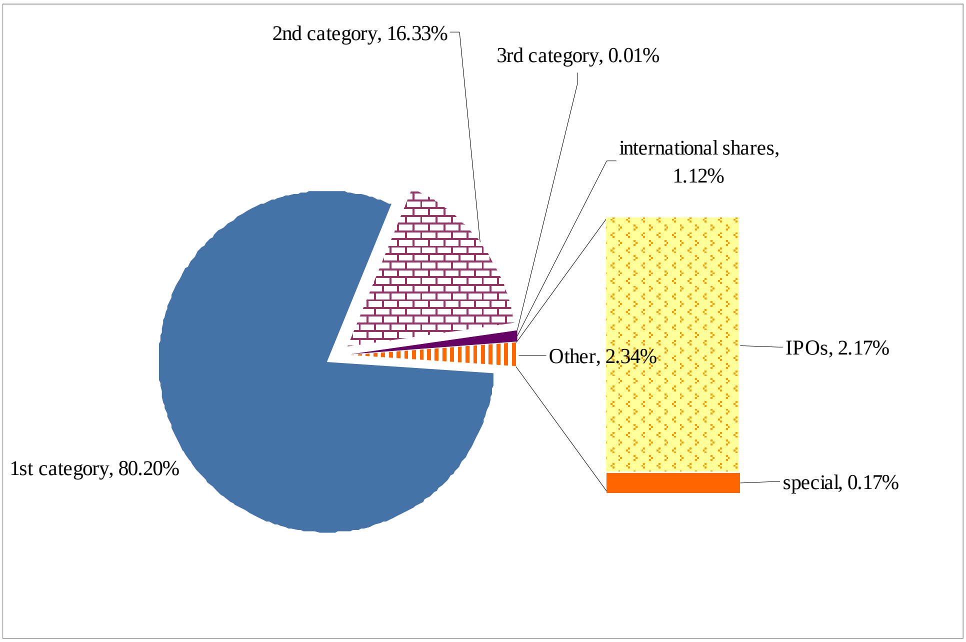
Graph 2. BVB main market position within BVB trading platform

Source: author's calculation based on data available at www.bvb.ro

BVB equity market segment

This is the oldest and the most important market segment at BVB. It is structured by three trading categories (tiers), the first category including the blue chip shares.

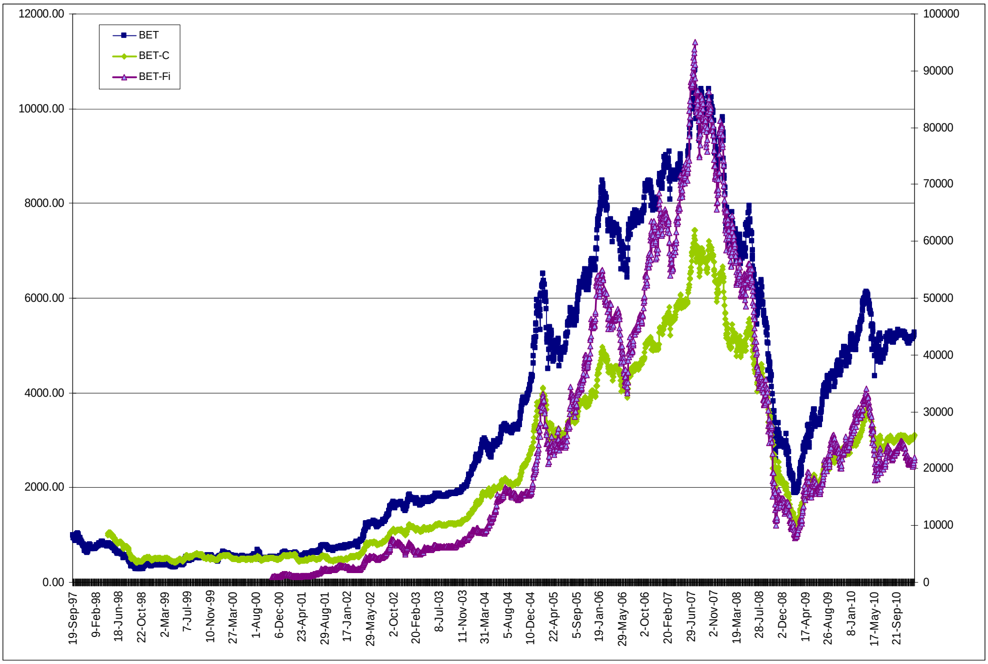
The trading structure for the equity market (presented in graph 3), based on turnover, highlights the investor interest directed mainly toward the companies listed inside the first category (within which SIFs are concentrating 49.18% of turnover – average figure for the period Nov.1999-Dec2010).



Graph 3. Equity market structure between Jan.1997 and Dec.2010

Source: author's calculation based on data available at www.bvb.ro
Note: 'special' is an old category of transactions which occurred up until 2000; they were replaced by the 'deal' trades that are now registered when they occur for each listed shares.

The evolution of BVB equity market segment is reflected by the three oldest indices, BET, BET-C and BET-Fi, in graph 4. As it can be observed, 2002 and 2004 were two important moments for BVB's growth: by the mid of 2002 the announcement that Romania will become a NATO member state boosted domestic and foreign investors interest alike; 2004 was marked by a surge of investments in the 10 new EU member states and extended to Romania also. The annual returns of the above mentioned indices are presented in table 4, compared against Romanian inflation rate. As table 4 below shows, starting with 2002, BVB returns became attractive for investors, the only exception being represented by the year 2008, when the 2007-2009 financial crisis reached its climax.



Graph 4. BVB oldest indices evolution between Sept.1997 and Dec.2010

Source: based on BVB data available at www.bvb.ro

Table 4.

BVB's oldest indices annual returns compared against Romanian annual inflation rate

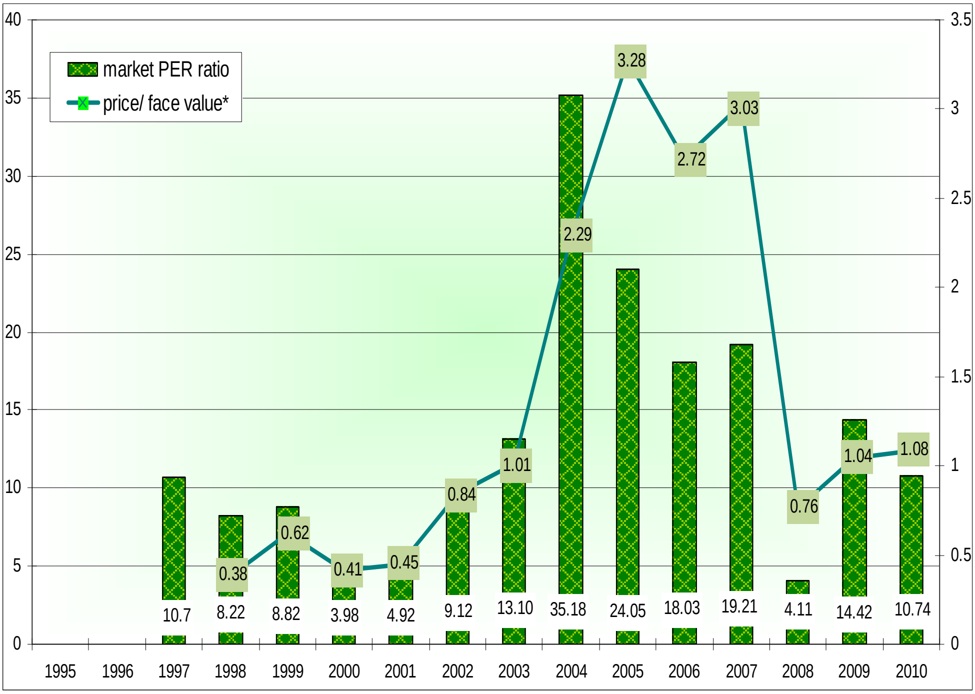
	BET return (%)	BET-C return (%)	BET-Fi return (%)	Inflation rate
1998	-49.40	-	-	59.10
1999	15.21	-4.99	-	45.80
2000	18.25	7.39	-	45.70
2001	35.71	-6.47	109.92	34.50
2002	117.52	124.02	113.14	22.50
2003	27.13	22.62	24.72	15.30
2004	93.15	98.29	106.94	11.90
2005	42.47	31.63	151.32	9.00
2006	18.09	25.07	24.66	6.56
2007	16.29	26.27	14.95	4.84
2008	-69.68	-69.68	-83.62	7.85
2009	57.21	34.62	83.33	5.59
2010	10.89	13.49	-10.09	6.09

Source: author's calculation based on data available at www.bvb.ro and at http://www.bnro.ro/Publicatii-periodice-204.aspx

The following graphs, 5 and 6, present PER and market/ book value ratio, and respectively the dividend yield compared against the inflation rate and average bank deposit rates offered by banks operating in Romania.

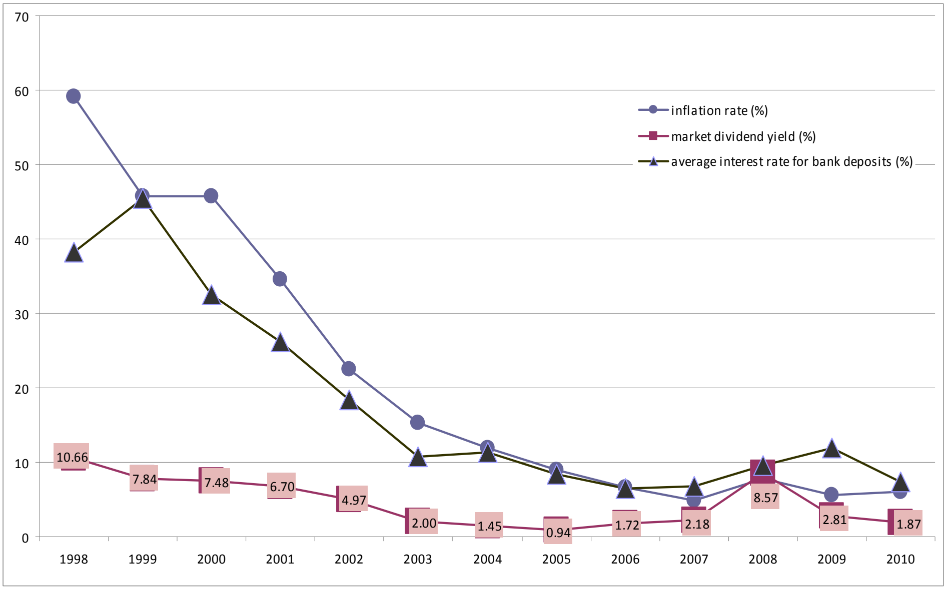
As it can be seen, PER followed BVB indices' evolution and reached its pick by the end of 2004, and the lowest value by the end of 2008 under the influence of the financial crisis.

The level of dividend yield (DIVY) for BVB equity market is very modest; it reached a pick by the end of 2008 due to the sharp decrease in prices as a direct effect of the financial crisis. The low DIVY can be explain by the fact that BVB listed companies rarely pay attention to their dividend policy. This fact is supported by the constantly decreasing number of paying dividend companies: from 54 in 2000 to 21 in 2009 (http://www.bvb.ro/ListedCompanies/StatusDivid.aspx).



Graph 5. - PER and Market/ Book value ration at BVB

Source: based on BVB data available at www.bvb.ro



Graph 6. DIVY at BVB compared against inflation rate and average bank deposit interest rates

Source: based on data available at www.bvb.ro and at http://www.bnro.ro/Publicatii-periodice-204.aspx

On what liquidity is concerned, using the number of trades, the volume and the turnover at daily level, 3 sub periods have been observed at BVB:

1. between 1995 and 1996 (the beginning period) the average number of daily transactions was 150, with an average volume of around 11.000 shares and an average daily turnover of 0.12 million ECU.
2. between 1997 and 2004, the average number of daily transactions increased to about 2145, with a volume of about 14 million shares and an average daily turnover of 0.82 million EUR.
3. between 2005 and 2009, the average number of daily transactions grew further to about 5400, with a volume of around 57 million shares and an average daily turnover of 9.74 million EUR.

While the general picture shows an improvement in BVB's liquidity, there are still problems with a number of companies due to relative low free float and/ or lack of trading frequency.

Two more details regarding BVB equity market segment should be added:

- it is dominated by the 16 companies listed inside the first category/ tier, including the 5 SIFs; between 1997 and 2009, the fist category companies concentrated 74.83% of all BVB transactions, 63.61% of BVB volume and 80.09% of BVB turnover;

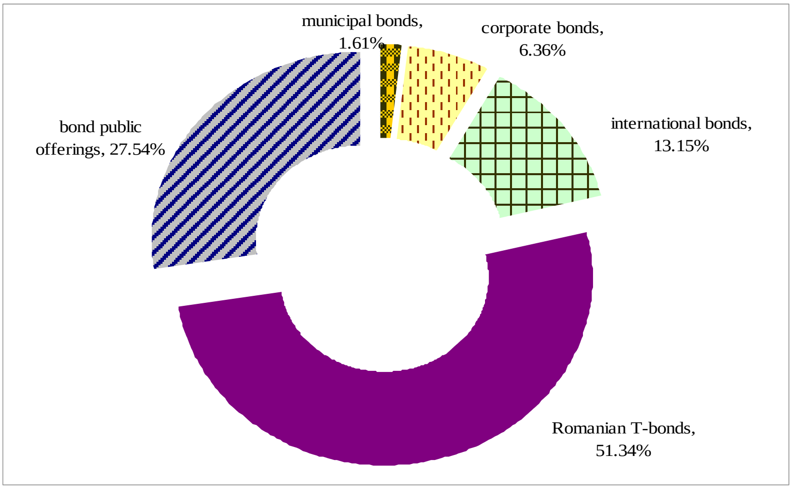
- the 5 SIFs play an important role inside BVB concentrating (since November 1999 until December 2010) 49.66% of all BVB transactions, 29.17% of BVB volume and 40.14% of BVB turnover; a recent study (Pop et al.2009 and Pop, Vamos, Craciun 2010) also revealed that mainly between 2005 and 2008 BET-Fi (which includes only the 5 SIFs) explains around 58% of BET variability and further investigations showed that BET-Fi returns Granger-cause BET returns – with probabilities ranging between 96% and 100% (for 44 days), while BET returns do not Granger-cause BET-Fi returns. This direct influence of SIFs over BVB should be taken into consideration by any investor interested in Romanian main stock exchange.

BVB bond market segment

The secondary market for Romanian bonds was launched at BVB at the end of November 2001 with only two bond issues of the small municipalities of Predeal and Mangalia[11].

The number of listed bond issues grew from 2 by the end of 2001 to 55 by the end of 2010. While the highest trading volume was reached by the end of 2007, the year 2010 was the one with the highest turnover within the bond market, as the information available at http://www.bvb.ro/TradingAndStatistics/GeneralStatistics.aspx?tab=1&m=0 shows.

The structure of bond market segment, based on turnover, is reflected by graph 7.



Graph 7. BVB bond market segment structure for the period Nov.2001 - Dec.2010
Source: author's calculation based on data available at www.bvb.ro

[11] Both municipalities are popular tourist destination, one on the mountain region of Prahova Valley (Predeal), respectively a resort at a Black Seaside (Mangalia).

The dominant position of government bonds does not represent a surprise; their listing at BVB was expected since 1998 and they represent an important investment alternative mainly for Romanian private pension funds, but also for Romanian bond oriented mutual funds. Being listed starting with August 2008, the T-bonds represented a safe alternative investment during the financial crisis climax.

The other types of bonds have a relative low profile, mainly the municipal bonds, which are the most numerous (35 listed issues at the end of 2010). Another problem is represented by the absence of listed corporate bonds since January 2010, when the last of the previous listed issues matured. It seems that there is no interest from Romanian company to finance their needs through bond offerings and list them at BVB.

BVB bond market segment relative low importance compared with the equity segment has various causes; several of them are mentioned below:

- the low volume per offer; the highest number of offered bonds did not overpass 3,000,000 bonds (the case of bond offering launched by European Investment Bank in 2007 for the Romanian market);
- the small number of investors that subscribe to the bond offerings; this cause is connected with the previous one: due to the low volume/ offer (combined with the fact that bonds offer an alternative in very high demand for portfolio diversification on Romanian market) every bond offering launched on the market is subscribed in a very short period of time mainly by domestic institutional investors; the dominance of institutional investors in subscribing bonds and the high speed with which they are subscribing municipal bond offerings were highlighted by Sain (2004, 2005a, 2006), and Ciobanu (2007a, 2008b);
- the tendency of the bond subscribers to keep the bonds in their portfolio long periods of time or up to their maturity as highlighted by Sain (2005b), Ungureanu (2006), Ciobanu (2007b, 2008a, 2010);
- the absence of a yield curve announced and periodically published by the Romanian Ministry of Finance for the period 2001 – 2006, this situation was similar with other neighboring countries, where benchmark yield curves are incomplete or unreliable (Iorgova & Ong, 2008); the relative difficulty in accessing the present information regarding the yield curve published starting with the second quarter of 2007 due to its hidden pages in the complicated website of Romanian Ministry of Finance;
- the absence of rating for Romanian listed bonds; this cause is not uncommon in the Central and East European countries due to the absence of a culture oriented toward using ratings, as highlighted by Szilagy et al. (2004); in the case of Romanian municipality, the need for a rating is not felt since in the market the demand unsatisfied by the offer; however for some Romanian investors the absence of rating becomes increasingly disturbing in the past 3-4 years, as stressed by Ciobanu (2009).

Currently, BVB officials launched a series of discussions with various potential corporate bond issuers in order to re-introduce those type of bonds for listing. Several other projects were also announced for promoting bond market segment among investors.

BVB other market segments (rights, futures contracts, ETFs and structured products)

As graph 1, above, showed, the other financial instruments listed at BVB have a low importance (less than 1%) within the total turnover of BVB main market. Most of these market segments were launched during the past 3 years and can be considered as 'new' in the eyes of Romanian investors. The influence of financial crisis should also be considered as an important factor that kept investor interest at relative low levels when stock exchange investments were concerned.

Table 5 presents the volume and turnover for the other market segments at BVB and it shows for various segments either low traded volume (in the case of futures contracts), or low turnover (in the case of rights), and in the case of ETFs both.

Table 5.

BVB other market segments volume and turnover as reported at the end of every year

		2005	2006	2007	2008	2009	2010
Rights	Volume (000)	231,482.06	393,246.10	12,974.09	2,939.20	0	161,790.00
	Turnover (mil.EUR)	0.74	0.16	24.71	12.98	0	1.11
Futures contracts	Volume (000)	-	-	0.06	18.02	15.61	25.10
	Turnover (mil.EUR)	-	-	0.16	5.24	15.81	25.42
ETFs	Volume (000)	-	-	-	141.48	159.98	223.11
	Turnover (mil.EUR)	-	-	-	7.08	4.84	5.38
Structured products	Volume (000)	-	-	-	-	-	1,213.31
	Turnover (mil.EUR)	-	-	-	-	-	10.86

Source: http://www.bvb.ro/TradingAndStatistics/GeneralStatistics.aspx?tab=3&m=0
Note: the exchange rate used to express the turnover in million euros are those available for Romania at *http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=tec00033&plugin=1*

The investor base in Romania

The home bias phenomenon briefly mentioned in Introduction is one of the factors in favor of maintaining the domestic capital markets. Therefore, a national investment base is important for the sustainability and the further growth of a capital market like the one of Romania.

At the end of 2010, Romania had an active population of about 4.8 million persons, of which 0.6 millions were unemployed. From this sketched statistic, despite the high unemployment rate caused by the 2007-2009 financial crisis, the potential of attracting domestic individual investors toward BVB seems important.

However, the official data (available only since 2006 when the Romanian Investor Compensation Fund was established in accordance with EU regulations regarding the capital markets) show very modest figures (see table 6).

Table 6.

Investors at BVB (end of every year)

	2006	2007	2008	2009	2010
Total investors	65,304	87,664	92,864	94,545	86,703*

Source: Annual Reports of Investor Compensation Fund (www.fond-fci.ro)
Note 1: The figure is estimated based on data provided by the Investor Compensation Fund to Romanian daily papers, but is not announced officially on the Compensation Fund website.
Note 2: Based on data presented inside the reports of 2006 and 2007, which now are discontinued, in average, 95.5% are estimated to be individual investors.

The causes for these modest number of individual investors at BVB are several and range from the relative low average net income/ person[12], to the preference given to bank deposits as main saving alternative, combined with the spending patterns of average Romanians, a relative lack of education in the field of individual investments, and with the mistrust generated by two successive crisis within Romanian mutual fund sectors during the second half of the 1990s. All these causes need further and extensive investigations and will not be further developed inside this paper.

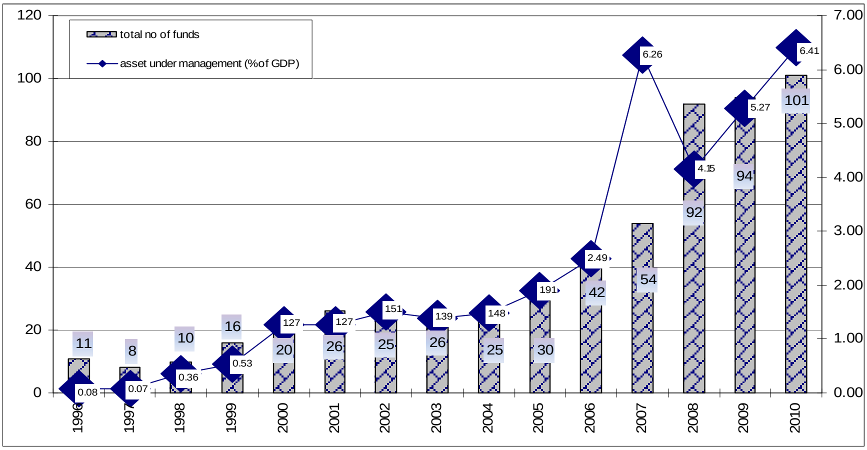
Romanian institutional investors' base is also a thin one. A number of 101 investment funds (registered in Romania) were identified by the end of 2010 – including open-end, closed-end, ETFs and pension funds from 2nd and 3rd pillar. The increase in number of investment funds and in asset under their management from 2008 was mainly due to the launch on the market of 23 pension funds, which started their activity January 1st the respective year. Graph 8 presents the evolution of those Romanian institutional investors.

[12] The level of average net income/ person is about 350 EUR/ month between 2006 and 2010 (source: own calculations based on data provided by the Romanian National Institute for Statistics; previously to this period the same income was even lower.

The picture should be considered incomplete; from this evolution Romanian insurance companies were eliminated for the following reasons:

- only an estimated number of 7 insurance companies (of a total of 24) have majority Romanian capital;
- while it was supposed that these 7 companies might choose to invest at BVB, they have very low profile segments of life insurance, if any;
- the available data regarding the assets under their management are not continuous, thus no proper analysis could be made.

It must be mentioned that this investor base is dominated by the 5 SIFs mentioned above, which for the period 2000 – 2006 concentrated over 90% of the assets under management. During 2007 a new peculiar investment fund, Fondul Proprietatea[13], was launched and in combination with SIFs the 6 closed-end funds concentrated about 83% of the assets under management for the period 2007-2010. These 6 closed-end funds have a peculiar position within Romanian investor base due to the fact that the SIFs emerged from the privatization process and Fondul Proprietatea was created for a special purpose. In all the cases, Romanian state had an important initial contribution to these funds assets by transferring in their favor stakes from its ownership in various companies.



Graph 8. The number of Romanian investment funds and the assets under management.

Source: author'e estimation based on data offered by Asociatia Administratorilor de Fonduri din Romania (www.aaf.ro), Romanian National Bank (www.bnro.ro) and by Romanian Private Pension System Supervisory Commission (http://www.csspp.ro/rapoarte)

[13] Fondul Proprietatea (FP) was established in order to grant compensations to those persons abusively deprived of their properties by the former communist regime and for who was no longer possible to be compensated in kind. Initially, the sole shareholder of FP was the Romanian state (represented by the Ministry of Finance). The persons entitled to compensations (established through some stages determined by regulations) received shares at FP, transferred by the Romanian state. Currently, the Romanian state stake diminished at less than 40%. The shares of FP became freely transferable since March 2008 and where traded OTC until January 25 2011, when FP was listed at BVB first tier. Source: www.fondulproprietatea.ro/index.php/pages/en/71/FAQ.html

This thin investor base might be expected to increase in the years to come, but the growth might be to slow for BVB, if the institution wants to remain independent, as it stated it its 2008 Annual Report.

In order to increase its visibility, BVB organized 'road shows' in various Romanian towns. These events were canceled during the second half of 2007 and were resumed starting with the beginning of 2011. Due to the financial crisis, the previous road shows' effects on attracting new investors could not be assessed.

Another way to increase BVB visibility is following NYSE model: various personalities are invited to open trading sessions.

However, the potential Romanian individual investor inertia is probably the most important obstacle to be overcome. In order to do this, several extensive studies regarding the profile of Romanian potential investors should be made and used accordingly.

BVB position compared with other Central and Eastern European exchanges

Romania, and therefore its capital market, was included in the category of **frontier market** by the three main companies offering international indices: FTSE Index Company, Standard and Poor's, and MSCI Barra include Romania.

While no commonly accepted definition exists for this concept, a 'frontier market' is a lesser developed market even by emerging market standards (Standard and Poor's) and it fulfill only 5 of the 21 criteria considered by FTSE Index Company for developed markets. These indices are relatively recent, launched between 2006 and 2007.

Other countries from EU27 that are considered, along with Romania, as being frontier markets are presented in the table below. As it can be observed, Romanian capital market is included in a group of EU member states with a lower economic power and potential of development than Romania. This inclusion is showing the relative low level of sophistication and the relative low capitalization of BVB, as will be presented further in this paragraph.

Table 7.

EU27 countries considered 'frontier markets'

FTSE Frontier 50 Index (a total of 23 countries)	S&P/IFC Global Frontier Markets (a total of 24 countries)	MSCI Frontier Market Index (a total of 25 countries)	IMF World Economic Outlook Database for 2009 GDP (PPP) $M and rank out of 180 countries	IMF World Economic Outlook Database for 2010 GDP (PPP) $M and rank out of 181 countries
Bulgaria	Bulgaria	Bulgaria	93,569 (rank 66)	44,843 (rank 75)
Cyprus			22,703 (rank 103)	22,752 (rank 91)
	Latvia		38,764 (rank 92)	23,385 (rank 90)
Estonia	Estonia	Estonia	27,207 (rank 104)	19,920 (rank 98)
Lithuania	Lithuania	Lithuania	63,625 (rank 80)	35,734 (rank 82)
Romania	Romania	Romania	270,330 (rank 39)	158,383 (rank 49)
Slovak Republic	Slovak Republic		119,268 (rank 58)	86,262 (rank 60)
Slovenia	Slovenia	Slovenia	59,316 (rank 82)	46,442 (rank 74)

Sources: www.ftse.com/indices/FTSE_Frontier_Indices/index.jsp; www.standardandpoors.com; www.mscibarra.com/products/indices; http://www.imf.org/external/pubs/ft/weo/2010/02/weodata/weorept.aspx?

For the current study, however, Romanian main capital market (BVB) will be compared against the neighboring EU member countries in the Central and Eastern European region: Bulgaria, Czech Republic, Hungary, Poland, Slovak Republic and Slovenia. Cyprus and the Baltic countries were not considered due to their geographic distance and due to the fact that Romania is more often compared with the countries in its near vicinity.

Of the group of country considered for this study, 3 countries are in the same category as Romania: frontier markets (Bulgaria, Slovak Republic and Slovenia). In the same time, Hungarian and Poland are included, by FTSE Index Company, in the category of 'advanced emerging' and Czech Republic in 'secondary emerging'. This situation is consistent with what Iorgova & Ong (2008) mention in their study: that in the region of Central and Eastern Europe, Poland, Hungary and Czech Republic have the most developed stock, bond and derivative markets in terms of size, liquidity and instruments.

Romania and the Romanian financial market's position among the countries of the Central and Eastern European region is well presented by the Global Competitiveness Reports published by World Economic Forum. Using these sources of information for the period 2007 – 2011, presented in table 8, it can be seen that the Romanian financial market is ranked relatively low, usually in the second half of the general rank; within the group of neighboring countries, Romania usually rank sixth, at best ranking on the forth place. This position is in concordance with the relative lack of capital market sophistication which included Romania among **frontier markets**.

Table 8.

Romania's financial market position among neighboring countries

2007-2008 131 countries ranked	**Bulgaria**	**Czech Republic**	**Hungary**	**Poland**	**Romania**	**Slovak Republic**	**Slovenia**
Country rank	***74***	***31***	***38***	***45***	***73***	***37***	***40***
Financial market sophistication/ development (8th pillar)	**74**	**53**	**51**	**64**	**78**	**33**	**47**
Financing through local equity market (8.03, former 8.02 component)	105	71	76	66	83	103	70
Regulation of security exchanges (8.08 component)	100	56	n/a	52	91	73	64
2008-2009 134 countries ranked	**Bulgaria**	**Czech Republic**	**Hungary**	**Poland**	**Romania**	**Slovak Republic**	**Slovenia**

2007-2008 131 countries ranked	**Bulgaria**	**Czech Republic**	**Hungary**	**Poland**	**Romania**	**Slovak Republic**	**Slovenia**
Country rank	***76***	***33***	***62***	***53***	***68***	***46***	***42***
Financial market sophistication/ development (8th pillar)	**74**	**47**	**61**	**68**	**60**	**31**	**46**
Financing through local equity market (8.03, former 8.02 component)	90	71	95	59	83	101	76
Regulation of security exchanges (8.08 component)	104	59	58	63	91	76	70
2009-2010 133 countries ranked	**Bulgaria**	**Czech Republic**	**Hungary**	**Poland**	**Romania**	**Slovak Republic**	**Slovenia**
Country rank	***76***	***31***	***58***	***46***	***64***	***47***	***37***
Financial market sophistication/ development (8th pillar)	**76**	**42**	**69**	**44**	**56**	**28**	**48**
Financing through local equity market (8.03, former 8.02 component)	85	37	100	61	78	93	72
Regulation of security exchanges (8.08 component)	108	38	54	39	88	84	60
2010-2011 139 countries ranked	**Bulgaria**	**Czech Republic**	**Hungary**	**Poland**	**Romania**	**Slovak Republic**	**Slovenia**
Country rank	***71***	***36***	***52***	***39***	***67***	***60***	***45***
Financial market sophistication/ development (8th pillar)	91	48	68	32	81	37	77
Financing through local equity market (8.03, former 8.02 component)	90	39	111	64	89	110	84
Regulation of security exchanges (8.08 component)	109	47	52	31	97	89	66

Sources: Global Competitiveness Report 2007-2008, 2008-2009, 2009-2010, 2010-2011 – as they were available for download on www.weforum.org

For further comparisons market capitalization and the percentage of market capitalization in GDP were used. Table 9 presents the evolution of market capitalization for the exchanges under scrutiny, while graph 9 shows the importance of market capitalization respective to GDP.

Table 9.

Market capitalization (million EUR)

	Warsaw Stock Exchange (Poland)	Budapest Stock Exchange (Hungary)	Prague Stock Exchange (Czech R)	Ljubljana Stock Exchange (Slovenia)	Bratislava Stock Exchange (SlovakR)	Bucharest Stock Exchange (Romania)	Bulgarian Stock Exchange
2000	33,760.8	12,810.1	n/a	3,335.0	3,523.2	450.5	n/a
2001	28,845.8	11,564.8	8,999.1	3,838.9	3,919.6	1,361.1	n/a
2002	27,055.4	12,493.3	9,796.3	5,355.1	2,528.6	2,646.5	n/a
2003	29,349.8	13,227.9	12,287.9	5,660.1	2,203.7	2,991.0	n/a
2004	51,888.3	21,039.5	21,720.0	7,115.2	3,239.4	8,818.8	2,062.1
2005	79,353.5	27,586.4	31,059.5	6,696.6	3,729.3	13,535.4	4,312.2
2006	112,825.6	31,687.1	34,693.4	11,513.1	4,213.8	18,857.9	7,829.9
2007	144,198.2	31,502.6	47,998.6	19740.12	4,554.9	21,508.5	14,820.8
2008	65,177.6	13,325.6	29,615.1	8,468.4	3,907.3	6,474.1	6,371.0
2009	105,157.2	20,887.9	31,265.4	8,462.2	3,614.4	8,402.5	6,030.9
2010	141,918.4	20,624.4	31,922.2	6,994.4	3,379.5	9,776.3	5,498.5

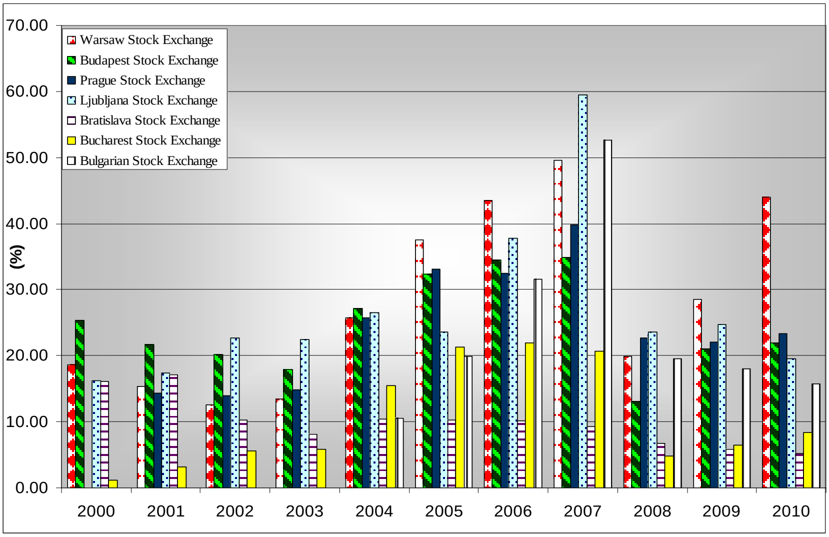
Source: FESE (http://www.fese.be/en/?inc=art&id=4) and Stock Exchanges websites where information was not available on FESE website

As table 9 shows, BVB (Bucharest Stock Exchange) was the only exchange which experienced capitalization growth rates of over or near 200% for 2001 (growth rate of 202.12%) and 2004 (194.84%), while for 2003 the same growth rate was near 95%. This situation was due to the important undervaluation of Romanian traded shares, combined with favorable conjuncture either political (2002 was the year when NATO accepted Romania as a member state) or economic and political (2004 was the year when EU was enlarged with 10 new member states, 5 of them being Romania's neighboring countries and included in the present study).

Only two other exchanges experienced important growth in their capitalization: Bulgarian Stock Exchange for 2005, 2006 and 2007 and Bratislava Stock Exchange for 2006 and 2007, but neither in the vicinity of 200%.

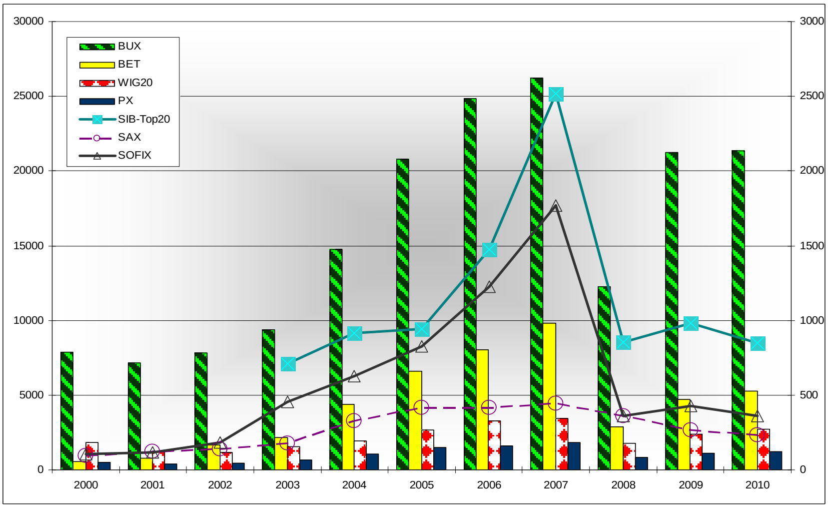
Despite BVB's important growth capitalization rate, the capitalization did not reach the levels of Warsaw, Budapest or Prague stock exchanges and the absolute figures are placing BVB at best on the 4th place (of 7), as it was the case previously when the financial market sophistication/ development was considered.

Graph 9 presents a similar position (at best ranking 4th of 7) for BVB when the importance of marker capitalization in GDP is considered, enhancing the rank given to Romanian financial market by World Economic Forum Global Competitiveness Reports.



Graph 9. Market Capitalization in GDP (%)
Source: FESE and stock exchanges' websites

Graph 10 and table 10 below present the evolution of the oldest indices for the stock exchanges under scrutiny; the choice of indices was made taking into consideration their type; 5 of the indices have blue-chip portfolios and only two are return indices (for Bratislava and Bulgaria).



Graph 10. Indices evolution
Source: FESE and stock exchanges' websites

Table 10.

Index annual returns (%) for Central and Eastern European exchanges

	WIG 20 (Warsaw)	BUX (Budapest)	PX (Prague)	SIB-Top20 (Ljubljana)	SAX (Bratislava)	BET (Bucharest)	SOFIX (Bulgarian)
2001	-33.47	-9.15	-17.53	n/a	31.41	38.58	11.15
2002	-2.71	9.36	16.75	n/a	15.90	119.79	54.33
2003	33.89	20.28	43.06	n/a	26.24	30.91	148.16
2004	24.56	57.17	56.58	29.30	84.85	100.96	37.63
2005	35.42	40.99	42.99	2.80	26.54	50.90	32.02
2006	23.75	19.53	7.67	56.57	0.56	22.23	48.27
2007	5.19	5.60	14.24	70.97	7.23	22.05	44.43
2008	-48.21	-53.34	-52.72	-66.09	-19.40	-70.47	-79.71
2009	33.47	73.40	30.19	15.03	-25.67	61.68	19.13
2010	14.88	0.47	9.62	-13.47	-13.71	12.32	-15.19

Source: FESE (http://www.fese.be/en/?inc=art&id=4) and Stock Exchanges websites where information was not available on FESE website

As table 10 shows, BET and SOFIX indices registered extreme values: their highest annual returns were over 100%, but these indices also registered the largest negative returns for 2008 when the financial crisis reached its climax.

The information presented above are all consistent indicating a relative low profile rank for BVB among the Central and Eastern European countries, despite overall good market performances as shown in table 10.

In spite BVB's good individual evolution between 2001 and 2007, completed by an important diversification of traded financial instruments, mainly between 2008 and 2010, Romanian main capital market could not overpass the more dynamic and better perceived markets in the region: Poland, Czech and Hungarian. One important reason is the thin base of domestic investors, either institutional or individual. The reasons those domestic investors have to avoid or be very cautious in approaching BVB (apart the relative low average monthly income) need further investigations. Another reason is the low power of BVB to attract foreign investors; this reason is partly explain by the sovereign ratings[14] Romania receives and received in the past, the highest being BBB offered by Fitch for the period September 2006 – November 2008 and BBB- offered by Standard & Poor's for the period October 2005 – October 2008. Since November 2008, both rating agencies rated Romania at BB+, while for 2011 the perspectives are considered to be stable.

[14] Data offered by the Romanian Ministry of Public finance at the following website address: http://www.mfinante.ro/ratingul.html?pagina=domenii

The alliances between European exchanges: where does Romania stand?

The competitive challenges that European integration brought for the small national exchanges represented and represent incentives for market operators to consolidate and/ or intensify collaboration. Relatively small markets may need to move toward linking their trading systems or merging with global markets (Claessens, Klingebiel and Schmukler 2002).

Within the EU the process of stock and derivative exchange integration started during 2000 when Euronext was created through the merger of Amsterdam, Brussels and Paris stock exchanges. Euronext includes today also Lisbon and LIFFE. It merged with NYSE Group during 2007 creating one important international exchange: NYSE-Euronext. It must be mentioned that Warsaw Stock Exchange has cross-membership and cross-access agreements with Euronext for cash and derivative products. Euronext alliance between four relatively small national exchanges represents a model to be followed during 2000s in Europe.

OM AG, latter OMX, created the Nordic Market virtual platform reuniting Stockholm, Copenhagen, Helsinki and Iceland exchanges and the Baltic Market where it joined Riga, Tallinn and Vilnius exchanges. The merger process for the Baltic Market started in 2003 and ended in 2006.

London Stock Exchange Group was created and is active since October 2007 joining under the same umbrella the London Stock Exchange and the Italian Stock Exchange.

Deutsche Boerse formed partnerships with Wiener Boerse, Irish Stock Exchange, Helsinki Exchange and Bulgarian Stock Exchange regarding the use of its Xetra trading platform.

September 17, 2009 is the date that marks the creation of the latest exchange group: Central and Eastern European Stock Exchange Group or CEE Stock Exchange Group, having as members: Wiener Boerse, Budapest Stock Exchange, Ljubljana Stock Exchange and Prague Stock Exchange.

All the groups mentioned above considered that through the merger of their forces through common trading platforms and increased transparency, they will gain exposure to a larger investor base (at least cross-national, but also international), while offering a wider variety of products and diversification under the same name and in the same virtual location.

BVB has just one important co-operation agreement with Wiener Boerse for its ROTX index, since 2004. Other 7 bilateral agreements are mentioned in BVB annual report of 2008 (pp 54): with Athena, Tokyo, and London Stock Exchanges – signed between 1997 and 2000; with Italian Stock Exchange, and Salonic Stock Exchange, signed in 2002 and 2003; and in 2006 with the exchange from South Korea and Republic of Moldova. None of these 7 agreements yielded any close co-operation or the perspective of an integrated alliance that can offer BVB an enhancement of its position.

Concluding remarks

The answer to the first question asked above:

- ✓ is there a future for small domestic stock exchanges in the region of Central and Eastern European countries, which are also EU member states?

can is given by the Euronext model and CEE Stock Exchange Group that followed the respective model. Through these kind of alliances, the identity of a small stock exchange is preserved, while the common trading platform allows an increased visibility when the international investors are concerned. As part of an alliance, a small stock exchange can fulfill its functions for the domestic companies and domestic government agencies looking for financing alternatives, and it also is opened toward an increased range of investment products that can be offered to domestic and foreign investors alike.

The answer to the second question:

- ✓ which will be the future for Bucharest Stock Exchange (abbreviated BVB[15] from now on) taking into account its inclusion in the category of *frontier markets*?

contains more nuances and is given in the paragraphs below:

In a challenging environment which put under question mark the existence of national stock exchanges, BVB remained isolated and small from capitalization point of view. Liquidity is also relatively low and despite the diversification of its activity through the bond and derivative market segments, the number of domestic investor accessing the market remain very low, with poor perspective to grow at a rapid pace in a short to medium-term horizon of time. The growth of Romanian institutional investors is also expected to be slow. The thin base of domestic investors calls for a strategy that will offer BVB an international exposure, and that could no more be realized individually.

BVB's position among the exchanges in the Central and South-Eastern European region is, at best, an average one. If BVB will not take into consideration the possibility to become part of one of the existing group of exchanges at the European level, its future can be put under question mark.

While difficult to asses, the barrier that BVB have to cross in order to join or to be taken over by an European group of exchanges are rather cultural than technical. To this it must be added the fact that BVB can be considered ‚a source of national pride' which might raise further debates regarding its independence or appartenance to a group of stock exchanges.

The most logical solution for BVB is to try to join CEE Stock Exchange Group, but the German cultural influence over this group is too strong for a Latin country like Romania.

[15] The BVB abbreviation comes from the Romanian name of the exchange: Bursa de Valori Bucuresti and it is preferred by the authors in order to avoid any confusion with similar possible abbreviation for Bucharest Stock Exchange, which are Budapest Stock Exchange, Bratislava Stock Exchange, and Bulgarian Stock Exchange.

Other alternatives are:

- an alliance with other small exchanges in the region, which are not (at last for now) independent, like: Bratislava Stock Exchange, Bulgarian Stock Exchange, Malta Stock Exchange and Cyprus Stock Exchange; however, such an alliance is difficult to be established due to important differences in the market structures, but also in the cultural background;
- an alliance with the important stock exchanges in Europe, which are still independent, like: Madrid Stock Exchange, Athens Stock Exchange or Warsaw Stock Exchange; however, compared with any of these exchanges, BVB is almost invisible and the proposal is likely to come from the other parties, rather than be made by BVB.

If BVB will not enter any alliance during the next 2-5 years its profile in the region will remain very modest and far from the stated objective in BVB's 2008 Annual Report of ‚becoming a leader in the region'.

However, a right alliance has the potential to enhance BVB's profile and to insure, at least up to a point, its independence.

During the month of June 2010 the BVB's shares will start listing on its trading platform. This situation will allow interested groups to make mergers or takeover offers. It remains to be seen if such an interest exists, and when and by whom it might be expressed.

The year 2011 might mark an important step forward if BVB position in Romania will be consolidated if the planed merger with SIBEX will be agreed upon and will take place.

Some rumors inside the Romanian financial sector (currently not confirmed) seems to indicate that the most probable alliance BVB will (be invited to) make is the one with Warsaw Stock Exchange.

The future evolutions will show if BVB chooses to join its forces with other exchanges in order to upgrade its profile for foreign investors, mainly, or will follow a slow (and relative risky) development path on its own in a fast moving, challenging and globalized financial environment.

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PUBLIC FINANCES CRISES WITHIN THE COUNTRIES OF PIIGS GROUP

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ABSTRACT. The world financial crisis, started by the collapse of the mortgage market in USA, gave rise to the deterioration of public finances in many European countries. The countries on which the impact was strong are Portugal, Ireland, Italy, Greece and Spain (or PIIGS). Already during 2010, Greece and Ireland would have both had to declare their bankruptcy but for the external financial aid. The purpose of the present paper is to highlight the causes that gave rise to the critical situation of the countries referred to as PIIGS, the scale of the phenomenon and the measures taken to improve the given situation.

Key words: financial crisis, public finance, public debt.

JEL classification: G01, E61, H63

Introduction

Recently and with respect to the world financial crisis, the conventional term PIGS was coined. The term is referring to those countries with difficult budget situations and high public debt levels. The term is an acronym whose successive letters are the initial letters of the names of the countries most burdened with the afore-mentioned problems (that means: P standing for Portugal, I for Ireland, G for Greece and S for Spain). Later on, Italy was added to the group and the acronym itself was extended into PIIGS. Sometimes, one can encounter the term PIIGGS, the second G referring to Great Britain. However, the present study does not include any data regarding Great Britain.

All references are written in Polish and English respectively.

The crisis in Greece

During the winter of 2009-2010, there was a sudden increase of Greece financial problems. The revelation of hoaxes and statistical manipulations - often euphemistically referred to as "creative accounting"[2] - delivered the final blow to

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[2] The term first appeared after discovering the huge financial scandals in USA in 2002. It referred to the cases of concealing the losses idealizing the profits for the sake of attracting potential investors and maintaining the good reputation/image. As time went on, "creative accounting" started to denote any cases of booking any financial records being not in accordance with the law or with *de facto* financial situation of a company.

this heavily indebted and seen as a highly corrupted country. Goldman Sachs helped Greek officials with their operations - or actually frauds. The above mentioned investment bank was accused by the American Securities and Exchange Commission (SEC) of frauds and unethical practices (Wray and Auerback, 2010). The Greek government tried to improve the situation by initiating spending cuts. Despite the fact that these were inadequate, they generated discontent and unrest among Greek citizens, who have been accustomed to high social welfare services. The riots made people understand and appreciate the real essence of debt crisis. Authorities became aware of the fact that the threat to the stability of Euro zone is not only the situation of Greece, but also the other ineptly governed and highly indebted countries such as Spain, Ireland, Portugal and Italy. The revelation of the scale of the problem forced the European politicians to design a saving plan not only Greece but also the whole Euro zone (Kwiecień, 2010).

Greek debt in the first quarter of 2010 included: credit instruments belonging to French banks (75 billion USD)[3], Swiss banks (54 billion USD)[4], German banks (43 billion USD)[5] and Dutch banks (12 billion USD)[6]. The banks' lobby at Europe level, after a few months of debating, forced their countries and international institutions to provide the financial aid to formally insolvent Greece; yet, *de facto* it was the aid to the creditors of Greece. It seems obvious that the problem of insolvency would generate some major losses for the respective banks. It became clear the necessity for governments to come up with the indispensable aids because of the potential threat of a bank systems collapse and the spread of a more acute financial crisis at European level (Chojna-Duch, 2010).

At the beginning of May, 2010, Euro zone heads of state gathered at Brussels for International Monetary Fund Summit and eventually ratified the assistance package for Greece amounting to 110 billion EUR until 2012. The price Greece had to pay for the support offered by the International Monetary Fund (IMF) came as drastic budget reforms. The plan agreed upon with IMF assumed decreasing the budget deficit from 13.6% of the national gross product in 2009 to 2.6% for 2014[7]

The reduction of budget spending included:

- ✓ the reduction by 30% of Christmas bonuses,
- ✓ the 12% reduction of the severance pay for the former employees of the public sector,

[3] Aproximatively 57 billion EUR at the exchange rate of 1 EUR = 1.3257 USD, as available on EUROSTAT for 2010.

[4] Aproximatively 41 billion EUR at the exchange rate of 1 EUR = 1.3257 USD, as available on EUROSTAT for 2010.

[5] Aproximatively 32 billion EUR at the exchange rate of 1 EUR = 1.3257 USD, as available on EUROSTAT for 2010.

[6] Aproximatively 9 billion EUR at the exchange rate of 1 EUR = 1.3257 USD, as available on EUROSTAT for 2010

[7] http://news.money.pl/artykul/prasa;grecja;uratowana;ale;nie;europa,146,0,616338.html

- ✓ the reduction of incentives,
- ✓ freezing the pensions in public sector and all government-controlled pensions,
- ✓ 5% reduction of public investments,
- ✓ some cuts in educational agenda.

On the other hand, budget revenues should increase through VAT raise from 19% to 21% and excise tax for fuels, cigarettes, and alcohol; also, luxury duty increased (relating to such commodities as cars worth more than 17,000 EUR, boats, helicopters, gemstones and precious metals (Zombirt, 2010 p.51).

The ratified structural reforms seem difficult to implement in Greece due to the following occurring conditions:

- social conditions: the necessity of changing the multi-generation habits of the beneficiaries taking advantage of public means, as well as pacifying the protests induced by cutting the spending with such destinations;
- economic conditions: the minus dynamics of national gross product combined with the small scale of diminishing the budget deficit;
- organizational conditions: diminishing the negative effects of an inept and too extended public administration, the difficulties concerning the modernization of the economy and reducing the grey market role.

The doubtful implementation of necessary reforms will probably mean not only postponing the term of repaying the debt generated by the assistance package, but also burdening with Greek debt other European Union entities for a long time, and the constant recurrence of the process until an inevitable final decisions should be taken (Chojna-Duch, 2010).

The afore-mentioned inevitable decisions can be the exclusion of Greece from the Euro zone. There are opinions considering that such a decision could generate the improvement of Greek economy. Recovering the national currency would cause its quick devaluation with respect to dollar and euro. That, in turn, would allow Greece to regain competitiveness on international markets and thus boost its export and tourism profits (Kozieł, 2010c). However, the more probable option seems to be the restructuring of the Greece debt[8] (Górniewicz, 1999).

At the end of 2010, the situation in Greece was slightly alleviated by the win of the already governing party Pasok (Panhellenic Socialistic Movement) at the level of local government elections. Probably, this situation will enable the Greek government to introduce and make effective new cost saving reforms (Walewska , 2010b).

[8] Restructuring means changing the conditions of repaying the debt. It can assume either the form of rescheduling or refinancing. The former involves the formal payment postponement relating to debt service and determining another deadline for repaying the given amounts. The latter denotes prolonging the credit period relating to realized payments or substituting a new medium-term loan for the current and future payments relating to debt service. Restructuring may also be equal to both of these forms concerning the long-standing and future payments relating to debt service (Górniewicz, 1999, p.55).

The Irish Problem

Starting with the end of the 1980s, Ireland registered one of the highest levels of development among the countries belonging to the European Union. At the beginning of 21st century, the Irish economic growth was mostly based on civil engineering sector. For the Irish population it was a genuine period of prosperity. From then onwards, they did not have to agree on a slow increase of salaries to maintain the international competitiveness and thanks to the work skills needed the civil engineering sector were not demanding expensive professional qualifications - the unemployment rate oscillated around 4%. At the beginning of the financial crisis, it seemed that Ireland should survive it unharmed. Virtually, Ireland did not suffer from any budget deficit and the public debt was amounting only to 25% of the national gross product (Walewska , 2010c).

However, when the demand for real estate collapsed (prices decreased by about 50%) the Irish government had to intervene in order to save the banking sector from bankruptcy, due to the burdens generated by the misfired loans for the real estate investors. The government then devoted the equivalent of 4% of the national gross product for capital injections in to the financial institutions, a decision which had negative repercussions over the condition of public finances. It coincided with the sharp decrease of the income flows to the Irish budget which was too strongly based on taxes generated by the new houses and capital profits[9].

The fiscal catastrophe was additionally aggravated by the surge of unemployment rate to 12.5% (as of December 2009), which further decreased the taxes based on capital profits, correlates with the spending increase on social services.

After several years of surpluses, Ireland experienced a budget deficit amounting to more than 7% of its gross domestic product. A year later, the deficit increased to 12.5%. Opposite to many European governments, Dublin could not afford to stimulate economy through financial means. On the contrary, frequently it made budget cuts. By the end of 2009, Irish government expenses were reduced by the equivalent of about 4% to 5% of the national gross product. Combined with the collapse of the industrial production, constantly increasing unemployment rate and the decrease in the private sector spending, the budget cuts contributed to the downturn of Irish national gross product by 3% in 2008 and by about 7% in 2009. Therefore, from the beginning of the economic crisis, the economy of the former Celtic tiger suffered a decrease of almost 10%[10].

The Irish government made an attempt to diminish the budget deficit from 14% in 2009 to less than 3% in 2014. In spite of initiating 7% tax for salaries within the public sector, until July 2010, the receipts from those taxes were less than expected.

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[9] http://www.parkiet.com/artykul/31,890574_Irlandia___wzor__do_nasladowania__.html
[10] http://www.parkiet.com/artykul/31,890574_Irlandia___wzor__do_nasladowania__.html

It is worth mentioning that the Irish government is implementing its plan through important spending cuts, decreasing unemployment benefits and other social welfare benefits. According to the International Collective Investment Scheme, the government did not appreciate the scale of the necessary corrections. The spending cuts and the increase of employment rates should reach the level of 6.5% of the national gross product and not the level of 4.5 % as was assumed by the government. However, those are not problems that cannot be solved. After 2 years' time of a shrinking Irish economy, during the first quarter of 2010, there occurred an improvement and the government has already sold the stake of securities planned for that year, the total value amounting to 20 billion EUR.

The critical situation of Ireland during the second half of 2010 has been assessed by Standard & Pooor’s. The decrease of the Irish sovereign credit rating from AA to AA- was caused by the constantly increasing expenses dedicated to rescue the domestic bank sector. It was estimated that Ireland will be forced to pay higher interest rates for obtaining new loans on the international market. The government in Dublin was expecting the budget deficit to increase at 14% of national gross product. In spite of implementing the afore-mentioned serious fiscal consolidation, Irish deficit will probably be the highest within the whole European Union. A large number of analysts considered that the budget deficit may reach the level of 25% of national gross product. The prediction can materialize if the government is forced to increase the additional aid to the domestic banks (especially Anglo Irish bank). According to analysts, Ireland will not recover shortly its former economic dynamics and the public debt within the next few years is estimated to remain at 100% of national gross product (Woś, 2010b).

The financial situation of Ireland remained unfavorable. At the beginning of September 2010, the Irish government admitted, for the first time, that the attempt to rescue the Anglo Irish Bank failed and it considers closing down that institution within 10 years' time. The primary idea was to divide the Anglo Irish bank into "good" and "bad" segments, the latter of which is supposed to be sold. The rescue attempt generated a cost of 23 billion EUR until September 2010. It is estimated that the cost can reach even 35 billion EUR.

The investors feared that the horrific situation of banking sector may additionally decrease the credibility of Ireland, which may, in turn, induce some other troubles for the Euro zone. The dimension of Irish related problems may be as serious as the scale of the troubles Greece was struggling with (Reda, 2010). All this was promptly reflected in the valuation of country related Credit Default Swaps - securities or bonds in case of a country's insolvency. The profitability of 10-year treasury bonds of Ireland reached, by September 8th 2010, the so-far highest level of 5.9 % (Siemionczyk and Krasuski, 2010).

During the next few weeks in September, the situation of Ireland continued to deteriorate. At the auction held on September 26th, 2010, the 8-year bond issue of 4.767% return on investment were suggested (the return on investment being higher by as many as 114 basis points than the similar issue made on August 17th, 2010). Undoubtedly, it was an important upsurge of the costs aimed to gain further financial support for the domestic bank sector rescue plan. The difference in profitability between 10-year Irish bonds and reputedly the safest German bonds equaled 4.29%, which is considered to be the highest rate in history (Wierciszewski).

It is worth noticing that, during the second half of 2010, the risk related to Irish debt increased even further despite the drastic budget cuts initiated by the cabinet of Prime Minister Brain Cowen. The economy of the Emerald Island remained in crisis. The second quarter of the year 2010, brought a national gross product decrease by 12 %.

On the turn of September 2010, the Irish government announced that the rescue attempt of the national bank sector shall cost 50 billion EUR; according to previous estimations the cost was at a level of 33 billion EUR). Therefore, this increased cost incurred the budget deficit planned for the above-mentioned year rise to 32% of national gross product; for 2009, the budget deficit was as high as 14.4% of national gross product, which was the worst result among PIIGS countries at that moment in time anyway. If the expenses related with the financial support for the Irish banks were to be excluded, the ratio of the deficit to national gross product would be only of 12% (Kozieł and Reda, 2010).

Many investors and analysts doubt whether the measures taken by the Irish government will enable it to diminish the budget deficit to 3% of national gross product by 2014. These misgivings were the reason for the increase in profitability of Irish bonds to the level of 8% (Kozieł, 2010a).

In November, 2010, 51% of investors from all over the world, who took part in Bloomberg's agency poll, expected Ireland to go bankrupt within the next 18 months. The percentage of investors considering the high probability of Ireland bankruptcy was 3 times higher compared with the opinions expressed six months previously (Kozieł, 2010d).

During the 2-day meeting (November 16th to 17th) of the Finance Ministers from the Euro zone, it was decided that Ireland can receive a financial aid amounting to 148 billion EUR, 20% of which shall be advanced by Germany. In return, Ireland has the obligation to increase the corporate tax, which has been relatively low so far (12.5%). Due to this, one can hope that Dublin will fight with its over 30% budget deficit, but the Irish companies will lose their competitiveness in comparison with other European companies - especially the German ones. It was Great Britain position in particular that did not approve of Berlin plans, criticizing the attempts as an intervention in the tax systems of other countries (Woś, 2010a).

It is worth mentioning that, during the meeting of Finance Ministers, the situation appeared to became a paradox: the countries offering financial support to Ireland were keener on the idea of initiating the bail-out actions to save Irish economy than Ireland itself; this situation occurred because Ireland was dreading the thought of losing control over its economy (Niedziński, 2010a).

One day later, the investigative mission was initiated by European Union, European Central Bank (ECB), and International Monetary Fund (IMF). They were inspecting the fiscal condition of Ireland and what measures are to be taken if Dublin decided to take advantage of the aid offered (Niedziński, 2010b). Eventually, Ireland shall get 86 billion EUR from the European Union and IMF.

November 24th 2010, the Irish Prime Minister Brian Cowen announced a 4-year saving plan which assumed the reduction of the state's spending by 10 billion EUR and the increase of tax income by 5 billion EUR. Thanks to these measures, Irish budget deficit should decrease by 11%. The plan further assumed:

- the decrease of the payment rate from 8.65 to 7.65 EUR per hour;
- the reduction of social welfare benefits for the citizens remaining unemployed for a long time;
- initiating property tax (that sort of tax has not applied in Ireland before);
- income tax shall apply to people earning at least 15,300 EUR a year (so far it has applied to people earning at least 18,300 EUR annually)
- VAT shall increase from 21% to 22% in 2013 and to 23% by 2014.

Brain Cowen also announced the intention of maintaining very low income tax, which would be - in his opinion - a key factor to the rapid development of the country's economy. The relatively radical saving plan did not manage to "calm" the financial markets. Shortly after its announcement, the interest rate of Irish bonds was further increased by another 30 basis points to 8.95% (Bielecki, 2010).

Spain crisis

Until recently, Spain was considered a country with a dynamic pace of development. Its favorable conjuncture was mainly attributed to the boom on the real estate market; a boom which had a positive influence not only on real estate investors but also on building companies and the banks financing these investments (Sadecki, 2010)[11]. Yet, the collapse happened in October 2008. Mortgage loan selling went down by 44%. Additionally, high unemployment rate[12] (mainly in the sector of civil engineering), limited tax incomes and simultaneously increased in the government spending regarding unemployment benefits, gave rise to serious budget problems.

According to Eurostat forecast, Spanish civil engineering sector will shrink until 2012. Louis Zapatero's government implemented radical budget cuts amounting to about 15 billion EUR, which represents 1.1% of national gross product. Such measures made Spain more credible in the eyes of financial investors.

[11] The Spaniards built even a few houses and the investments in the domain of real estate were tantamount to 1/3 of national gross product (Sadecki, 2010, PIGS i rozhulane budżety, „Bank" 2010, nr 5, s. 57 – 58)

[12] According to the date of European Commission, the unemployment rate in Spain equaled 20% for the period 2009-2010.

On the other hand, direct investors left Spain, a behavior similar for the all countries from PIIGS group. The loss of foreign direct investments additionally deepened the economic recession (Gruszecki, 2010; Kowalik, 2010).

Another issue of Spanish economy was the private sector debt (households and companies). The mortgage loans given for 50 years' time and the possibility of claiming a tax refund amount to 15% of the installments being paid off. This gave rise to the situation in which the sum of debt in the whole economy equaled, at the beginning of 2010, over 340% of national gross product. Among the well developed countries in the world, only Japan and Great Britain were more indebted (Wróbel, 2010).

The decrease of trust towards Spanish credibility enforced the profitability of Spanish bonds. 90% of the bonds issued during 2009 were characterized by a maturity shorter than a year. These short-term liabilities were to be renewed the following year but on less favorable conditions. In 2011, the repayment will coincide with the necessity of rolling long-term bonds, which may additional deepen the economic crisis in the country. According to experts, Spain may not be able to overcome this burden (Sadecki, 2010).

The actions taken for diminishing budget deficits in Portugal and Italy

In Portugal, the government of the Prime Minister Jose Socrates started the savings by reducing salaries of clerks and members of the parliament by 5% and froze them for the next 3 years. Salaries of employees from the public sector earning more than 1,500 EUR per month were also decreased by the same percentage. Furthermore, the spending on social purposes was drastically cut.

Apart from the reduction of expenses, the Portuguese government initiated additional income tax amounting to 1.5%: from 2011, VAT will increase by 1% (at the level of 21%) and big enterprises will pay a new tax amounting to 2% of their income. These measures can potentially bring the amount of savings and new generated income to 5.7 billion EUR annually. Moreover, 17 national companies are about to be privatized for about 8 billion euros (Walewska, 2010a).

For 2010, the Portugal's budget deficit equaled 7.3% of its national gross product. Due to the actions taken by the government, it is planned to be reduced to 3% by the end of 2012.

Members of Chinese Parliament expressed the willingness to purchase a great number of Portuguese bonds. The Chinese, who have important savings, try to invest them in the bonds of other countries, Greece and Ireland inclusive (Koziel, 2010b).

At the end of 2010, it the opinion that Portugal, similar to Greece and Ireland, can apply for international financial aid was often expressed. The cause of this wide spread opinion was the fact that the saving plan was not meticulously implemented by Lisbon government (Walewska, 2010a).

The Italian economy, while being ranked third best in Euro zone with respect to the value of national gross product, developed more slowly than expected. At the end of the first decade of 21st century, the Italian industrial production decreased, whereas unemployment rate rose. In 2010, Italian public debt surpassed 1.7 billion EUR, which amounted to 115% of the national gross product. According to the president of the Italian Central Bank, Mario Draghi, Italy was not very competitive because of the wrong labor law, having its economy based on small enterprises which were unable to compete on the global market, and eventually the inefficiency of its financial sector (Walewska, 2010a).

Silvio Berlusconi's government announced the introducing of savings amounting to 25 billion EUR. Among the measures taken:

- only every fifth clerk quitting a job shall be replaced by another employee;
- salaries of all administration employees shall be frozen for the next 3 years;
- annual incomes surpassing 90,000 EUR will be additionally taxed, which shall amount to 5% of the income for the Italian budget
- transfers of money from the state's budget to local governments shall be limited to 2 billion EUR in 2011 and 3.8 billion EUR for 2012;
- spending on the health service shall be diminished in 2011 by 400 million EUR and by 1.1 billion EUR in the forthcoming year;
- the budgets of successive state departments shall be diminished by 8-10%;
- all the employees who, in 2011, reach the pension age will have to work another half a year.

The Italian government did not predict the necessity of raising taxes but it was making attempts to improve the process of executing taxes (Walewska, 2010a).

The results of all these measures would be assessed during the years to come.

Comparing financial situations in the countries of PIIGS group

The largest public debt among the analyzed country is definitely attributed to Italy. At the end of 2009, The Italian public debt amount surpassed 2.3 billion USD[13] (see table 1). It is noteworthy, that within 9 years, the amount of Italian public debt doubled.

Close, on the second place, is Spain, with its public debt amounting to almost 700 million USD[14]. Similar to the Italian public debt, the Spanish public debt level also underwent doubling in amount.

[13] Aproximatively 1.6 billion EUR at the exchange rate of 1 EUR = 1.3948 USD, as available on EUROSTAT for 2009.

[14] Aproximatively 501.9 million EUR at the exchange rate of 1 EUR = 1.3948 USD, as available on EUROSTAT for 2009.

On the third place comes Greece with over 430 million USD[15], fourth Portugal (191 million USD[16]); while on the fifth place comes Ireland (with about 108 million USD).

Within the period 2000-2009, for 3 of the afore-mentioned countries the public debt was thrice as much in 2009 compared with 2000.

Table 1.

Public debt within PIIGS countries (in million USD)[17]

Countries	2000	2005	2008	2009
Greece	138.34	254.13	364.74	430.05
Ireland	33.97	45.04	70.14	108.26
Italy	1147.91	1644.99	2132.67	2334.52
Portugal	61.58	120.04	164.86	191.23
Spain	292.48	389.81	510.17	698.63

Source: author's own calculation based on of the data provided by OECD

The debt of a given country is not merely confirmed by its amount, but more important - by its relation to the worth of the country's national gross product. Having considered the latter, the worst positions were occupied by Greece and Italy and the most favorable by Spain (see table 2). It is worth mentioning that all of the enumerated countries surpassed, for 2010, the criterion written in Maastricht Treaty, regarding the maximum amount for the public debt being 60% of GDP.

For Greece and Italy within the whole analyzed period (2000-2009) the relation equaled more than 100%.

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[15] Aproximatively 308.3 million EUR at the exchange rate of 1 EUR = 1.3948 USD, as available on EUROSTAT for 2009.

[16] Aproximatively 136.9 million EUR at the exchange rate of 1 EUR = 1.3948 USD, as available on EUROSTAT for 2009.

[17] In order to ensure a data consistency, table 1 above is converted in million EUR; the exchange rates used are the following:
for 2000: 1 EUR = 1.0850 USD (as provided by www.oanda.com)
for 2005: 1 EUR = 1.2441 USD as available on EUROSTAT
for 2008: 1 EUR = 1.4708 USD as available on EUROSTAT
for 2009: 1 EUR = 1.3948 USD as available on EUROSTAT

Countries	2000	2005	2008	2009
Greece	127.50	204.26	247.98	308.32
Ireland	31.30	36.20	47.68	77.61
Italy	1057.98	1322.23	1450.00	1673.73
Portugal	56.75	96.48	112.08	137.10
Spain	269.56	313.32	346.86	500.88

Table 2.

Public debt of PIIGS countries as percentage of GDP (%)

Year	Greece	Ireland	Italy	Portugal	Spain
2000	106.2	38.4	111.2	53.3	61.2
2001	106.9	36.1	110.6	55.6	57.5
2002	104.7	32.3	108.0	58.1	54.6
2003	103.0	32.0	106.2	59.4	50.8
2004	101.8	31.3	103.8	60.8	63.0
2005	107.4	27.6	106.4	63.9	43.2
2006	107.6	27.0	106.5	64.5	43.1
2007	105.8	23.9	103.5	67.0	40.2
2008	97.6	43.2	105.8	66.4	39.5
2009	126.8	64.0	115.8	76.8	53.0
2010*	123.0	81.0	118.4	91.0	68.0
2011*	130.0	93.0	130.0	97.0	74.0

Source: European Central Bank data
Note: * forecast

Analyzing the public debt levels for the countries belonging to PIIGS group, it is impossible not to notice the phenomenon of "crossing" of the debts. It involves the mutual indebting of the particular countries. The phenomenon is illustrated by the following diagram (figure 1).

The primary reason for getting into debt is the occurrence of budget deficit. It is to be emphasized that budget deficits have recently been the constant phenomena in the countries in European Union. According to the forecast of European Commission, by the end 2010, it is expected that Ireland will be burdened with the largest budget deficit, estimated to amount at 32% of GDP (figure 1). The budget deficits of Greece, Spain and Portugal will probably be as high as 8% to 10% of GDP and for Italy it will probably slightly surpass 5% GDP.

It is worthy emphasizing that in 2010; only 3 countries in European Union will be able to satisfy the criterion included in Maastricht Treaty according to which the relation of budget deficit to the worth of national gross product cannot surpass 3%. These 3 countries are: Bulgaria, Estonia and Sweden.

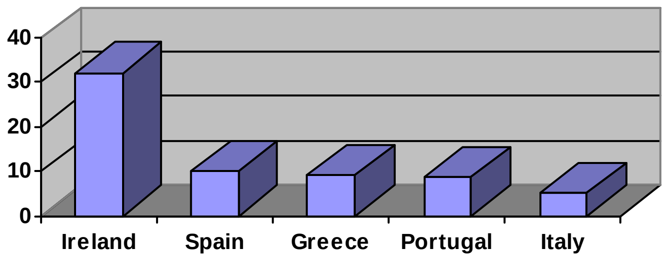

Figure 1. Budget deficits PIIGS countries (as % of GDP)

Source: author's work based on the data provided by the European Commission.

On the basis of the worth of CDS bonds, it is possible to present the accumulated probability of the declaration of bankruptcy. According to the data from September 23rd 2010, for the countries of PIIGS group, Greece is the most likely to go bankrupt (50.6%). The next positions were occupied by Ireland (34.2%), Portugal (30%), Spain (18.2%) and Italy (16%). It is worth adding that the likelihood of Greece going bankrupt is similar only with the case of Venezuela (56.4%)[18].

Summary

Despite a number of similarities, the PIIGS' group countries differ from one another considerably.

At the end of 2010, Italy was in a relatively best position - paradoxically enough, Italy also was burdened with the highest public debt (in an absolute sense) as well as in relation to the worth of its national product. However, this country has the lowest budget deficit and the least probability of insolvency.

Also at the end of 2010, Ireland was in the worst position - it reached the unprecedented budget deficit in relation to the worth of national gross product because of the necessity of saving the national banking system.

Greece was caught in the analogous predicament - in Greece the problems regarding repaying the debts appeared for the first time.

It is worth mentioning that so far only these two countries (Greece and Ireland) have taken advantage of the financial aid of offered by the European Union and International Monetary Fund.

Yet, in the nearest future, one has to reckon with the possibility of Portugal and even Spain applying for the financial support provided by the above mentioned institutions.

The attempts made during 2010 by the PIIGS countries aimed to improve their public finance standings involved mainly spending cuts as well as searching for additional budget income resources are to be considered as understandable and yet a bit too weak. European Union got deeply implicated in rescuing those countries being on the verge of bankruptcy in the light of the possibility that the banks in the countries better-developed than PIIGS countries will incur important losses and in order to avoid a potential collapse of Euro currency.

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PROCEDURAL MANAGEMENT IN SELF-GOVERNMENT

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ABSTRACT. This article introduces one of the modern approach to management of self-government – it is the process management in comparation with the functional management and its application´s possibilities in pratice.

The self-government whose performance is not based on profit but on the budget and the disposable resources are not applied in the way of maximising the profits but it is focused on meeting the demands of the client – citizen and the self-government is influenced by the political, judicial and economical environment in which it works. The managerial processes decide about the allocation of disposable resources and their input into the processes and the revenues and expenditures are assessed by them. The level of citizens´satisfaction having a textual reflection rather than a numerical representation is highlighted. An efficient method to be applied is the benchmarking which compares the different coefficients of different organisations or self-governments within the same processes.

Key words: process, transformation process, self-government, resources, procedural mapping.

JEL classification: H70, H83, H89

Introduction

The procedural management provides a new approach to performance and activities in organisations. Although the participants namely the employees of the organisations are not aware of the ongoing process nevertheless all the activities are governed by certain rules creating the processes. In the presented paper we compare two approaches, the procedural and functional ones in management of self-government and a short analysis on procedural approach in management of a selected self-government will be carried out.

The process and its identification in management of self-government

Characterisation of the process

The process contains a complex of interactive resp. interrelated activities indicating an added value to inputs and transforming them into outputs. (Grasseová, 2008, p. 7). The inputs always present a defined input value and the outputs are the

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results of the activities. The output in the form of products and services is the final result of the process. The process development is illustrated in Figure 1.

Figure 1. Process Development

Source: worked –out by the author

As it can be seen from the above figure, the process is a complete transformation of activities carried out within an organisational unit. It has a clearly defined starting point, ongoing activities and a conclusion of the process which represents the input of the following process.

In order to achieve the appropriate results and satisfaction of the clients – citizens it is necessary to manage these processes.

The process management consists of identification, visualisation, assessment, evaluation and systematic improvement of processes applying methods and principles due to procedural approach (Závadský, 2005, p. 6). It is an open dynamic system, the operations of which create the basic unit of the activity and all the operations are systematically interconnected into processes and, as a consequence, they create a subystem.

The process is similarly defined by Šmída (2007, p. 30) stating that the system can be characterised as a continuous improvement of the processes. It is a periodic cycle which can be constantly improved as it is defined in Deming Cycle (Mateides & Závadský, 2005, p. 32). The Deming Cycle provides a method for improvement of processes repeating the 4 phases: Plan – Do – Study – Check (Evans & Lindsay, 2005, p. 636) and presents PDCA method which led to goals achievement as the whole cycle is repeated until the satisfaction is achieved in concordance with the planned results.

Comparison of procedural and functional approaches

There are two approaches which do not prove any antagonistic contradiction as the procedural approach is interconnected with the functional one.

The functional approach reflects the division of labour into functional units due to their specialisation (Grasseova, 2008, p. 40). According to this division of labour the organisation structure is created based on individual operations of the processes without assessing the complete transformation process. The organisation is managed mainly due to requirements of individual functional units (stated as horizontal management) and the transition from one unit into the other one can prove the risk of waste of time, information and costs as well expended on final output. The functional approach focuses on simple operations – with a limited range of knowledge (skills) in interconnection with the complete functional unit and therefore the other managerial functions are required, e.g. coodination, multilevel control in order to achieve the final goal and as a consequence the number of workers will be increased without any added-value; furthermore the costs will be increased as well. As a result there can be, on one hand, a pyramidical – horizontal organisation with a redundant multilevel management, and, on the other hand, limited responsibility and competence. Furthermore the requirements of functional operations prevail those of the whole organisation. This situation, within the functional structure, influences the information system which has been developed based on a functional approach and more or less it can fulfil its requirements. As a consequence there is an unwillingness to modify the remuneration method for a new one according to measurable results of the processes.

The procedural approach delivers a modern management method and enables a continuous transition of operations within one organisation. There does not exist any contradiction between these two approaches as the procedural approach is interconnected with functional management and governs it due to its principles.

The basis of the process management is defined by its goal (Grasseová, 2008, p. 42) which means optimisation and development of organisational operations in order to react to requirements in an efficient and effective manner, and considers the labour operation as a process - presenting a complete system of operations ending with an output. It is necessary to define inputs, outputs and resources for each individual process with the aim to evaluate the effectiveness of the processes and the responsibility has to be unequivocally assessed. At the same time the quality and the effective application of available resources have to be maintained. If we want to apply the procedural approach successfully in practice, the top management will be required to act promptly and constantly and the whole process will become a logical consequence of interconnected labour operations.

Application of the procedural method requires a new approach to management and its individual functions. The historical development has brought about various approaches to management function which need to be provided by managers. We consider the managerial functions creating the content of the management.

The procedural approach to management has its origin in the theory of administrative management. (Štefkovičová, 2002, p. 57). The know-how of administrative management has become an important part of development of the theory on procedural approach. Currently the most widely applied classification of managerial functions is the followings: planning, organising, people´s administration and controlling – the last one connects the supporting operations with he executive ones and these functions are defined as sequential (Vodáček, Vodáčkova, 2006, p. 68). These are consistently executed in logical interconnections – sequences.

The parallel managerial functions are the continuous ones – analysing, decisionmaking, implementation. The relations between the sequential and parallel functions provide a complete systematic overview and the matrix mapping of managerial functions can be illustrated in the following Table 1.

Table 1.

Matrix Mapping of Managerial Functions

Sequential functions/ parallel functions	**Analysis/ Assessment**	**Decision making**	**Implementation**
planning **organising** **people´s administration** **and controlling**			

Source: Vodáček, Vodáčková, 2006, p. 69

The advantage of this presentation, made by the author, is a simplification of the two types of processes enabling the application of procedural approach in organisation management. The basic differences between functional and procedural management are presented in Table 2 according to Grasseová (2008, p. 46) .

Table 2.

Basic Differences between Functional and Procedural Managements

Item	**Functional approach**	**Procedural management**
basic principle	division of labour	operation grouping
organisational structure	steep pyramid	flat, horizontal structure
organisation as a system	coordination of separated elements	synergic effect
competences and responsibility	for the department or operation	for the whole process (its integrated segment)
relation to subordinate	assignment, directives	people´s administration, indirect support
coefficients	economical analysis	analysis of processes – coefficients according to the types
orientation	consequences	reasons
communication	vertical	horizontal

Source: modified version of Grasseová, 2008, p. 46

Self-government and procedural management

<u>Basic principles of self-government</u>

The local self-government as part of public administration is a local unit, geographically defined in which a community of residents is living and the basic level of it is the municipality. It has independent competences, is authorised and responsible for executing tasks which are in its charge (Peková, 2004, p. 31). To fulfil these tasks there have to exist certain prerequisites such as: judiciary - competent laws defining its autonomy, directives on asset management, economical prerequisites – a certain degree of self-sufficiency.

The local self-government provides three public services:

- social concerning the residents ´life in the given community,
- territorial - technical – based on organisation and exploitation of self-governmental territory
- economic – focused on prosperity and development of self-government, processing of economical coefficients.

From the point of view of procedural management as mentioned above we will highlight the outputs which have different forms taking into consideration the process division; according to importance and purpose they can be divided into the following categories (Grasseová, 2008, p. 13):

- managerial processes – these are processes providing development and executive management of the organisation and they ensure its integrity and performance.
- main - key processes creating values – they are a complete set of added-value and they are the main reason for existence of the organisation
- supporting processes – providing conditions for organisation performance and for accomplishment of other processes which are necessary for the main processes.

Applying the principle of decentralisation of authority the self-government becomes a subject responsible for ongoing processes (Švantnerová – Kožiak, 2005, p.30) and the results of the processes are the outputs.

The output is the conclusion of the process and its tangible result is the product. The product is the final result of the self-government activities and the self-government possesses the business–related part of the product as a consequence of its competence pursuant to law, or it results from its own business activity. The product contains a complex of processes; it can be evaluated, and it is necessary to be managed. From the point of business-related basis the product can have the following forms:

- business–related service (social service)
- result of the administrative body – clerical (document, certificate, statement)
- tangible output (sewerage, waste disposal).

The output is influenced by many factors such as the managerial level of the processes, the exact managerial processes; these identify the structure and the logistics of the processes.

Procedural mapping

The key factor in understanding the flow of processes is their mapping. The procedural maps provide a better overview of the process and they highlight all interrelations that occur within the process.

The procedural mapping is the communication tool of procedural management (Fiala, Ministr, 2003, p. 89).

The procedural map introduces the description of processes, their inputs and outputs and their parameters as well, according to which the processes can be monitored. The procedural mapping is described by the relations which characterise the organisation of operations. The procedural mapping enables to analyse the purpose of the process, functions carried out by the process and to depict the mechanisms serving for accomplishment of the processes. The procedural mapping can be characterised by the following features:

- understanding the process by creating maps, graphical illustrations of the operations;
- highligthing the internal hierarchy and structure of division according to importance and purpose;
- allows regular evaluation and assessment of all decisions, furthermore the assessment costs and other financial aspets.

Application of procedural approach to management of a selected self-government

We will consider the competences of the city council of a selected self-government which carries out the following processes due to core and delegated competences. The processes will be divided by their purpose:

Table 3.

Processes due to their Purpose

PROCESSES		
MAIN	**MANAGERIAL**	**SUPPORTING**
communication	plan of economic and social development	judicial services
register office	quality management	personnel administration
residence and housing registration	strategy and organisation	purchase, storage
elections	project management	working environment
taxes and fees	coordination of activities	infrastructure
asset management	human resources and education	informatics
public services	project budgeting	operation and maintanance
land use planning	documentation and data management	data protection
transport		treasury
environment		accounting and budgeting
investment urban planning		financial control
education and sport		
culture		
social care		
housing support		
supervision of fire protection		
complaints		

Source: modified version of Grasseová (2008)

According to the table of process division, we will create the map of processes which clearly shows the interrelations among the processes from the point of transformation process of inputs and outputs.

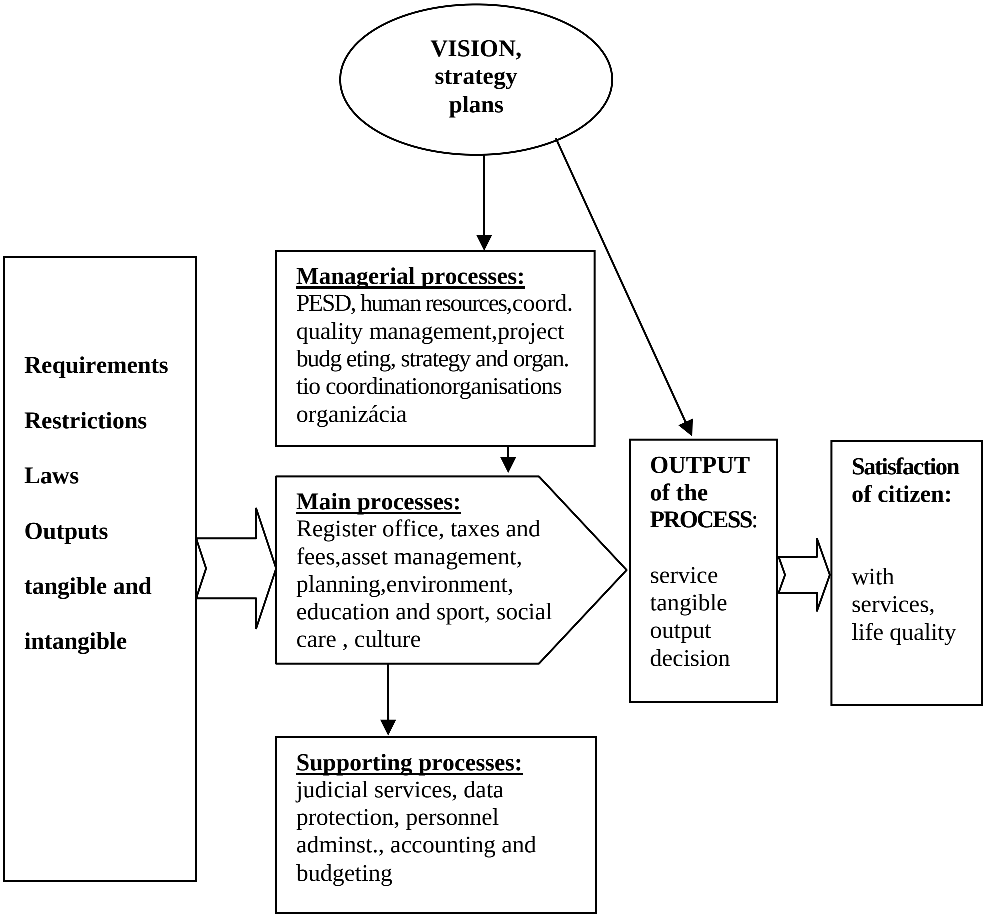

Figure 2. Map of Processes in the Model of Self-Government
Source: modified version of Půček 2005
PESD: Plan of Economic and Social Development

The further analysis deals with the main process – Register Office. Considering competences of the Register Office they are delegated ones and the outputs could have a tangible character (e.g. issue of birth or marriage certificates) or an administrative operation in the form of a service. To provide the operations of the main processes of the Register Office there are a lot of activities to be carried out which are logically interconnected and all of them are aimed at achieving the goal – the output. The example of the modification of surname is illustrated in the following simplied Figure 3.

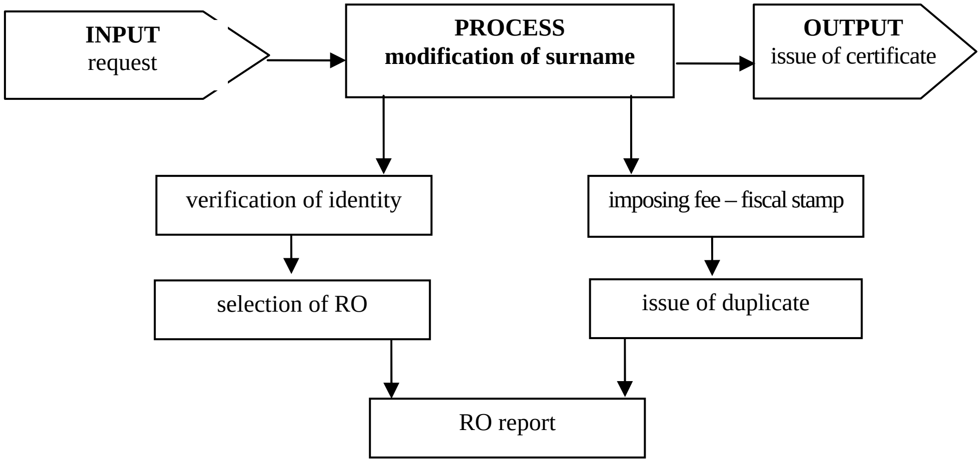

Figure 3. Process of Modification of Surname
Source: Register Office

The input of this process is presented by the request of the client – citizen, the output is the required certificate issued by the Register Office, the process performer is the Register Office which monitors its own operations and the satisfaction of the client – citizen with the output.

The number of accomplished operations in individual processes has been constantly increasing (it is influenced by competences and increasing number of citizens). In the years 2007 – 2009 the self-government registered an increase from 42 147 operations to 50 076. The financial resources expended on process provision by the Register Office are quantified in the following structure showing that the expenditures are proportionally increasing with operations.

Table 4.

Structure of Expenditures on Register Office (000 EUR)

S.N.	Item	Expenditures in years	
		2008	2009
1	emoluments,salaries	54,77	59,75
2	insurance and other installments for insurance company	19,98	21,78
3	postal services, telecomunications	5,31	3,65
4	asset – facilities	1,99	0,33
5	material	1,99	0,32
6	computer technics	1,19	0,66
7	maintainance of hired technics	1,13	0,60
8	others	1,0	1,50
TOTAL EXPENDITURES		**93,27**	**98,42**

Source: Register Office

There is a substantial increase in expenditures mainly in the item of emoluments, salaries and as a consequence an increased value of installments for the insurance company. On the other hand there is a decreasing tendency in postal and telecomunication services due to informatisation in these fields.

Summary

As we have presented in our analysis there exists a real procedural management in the self-government which proves many advantages but nevertheless there are some issues due to above mentioned specialties of self-government. All the processes in the entrepreneurial field can be unequivocally quantified and assessed by the performance reflecting the economical results.

The self-government whose performance is not based on profit but on the budget and the disposable resources are not applied in the way of maximising the profits but it is focused on meeting the demands of the client – citizen and the self-government is influenced by the political, judicial and economical environment in which it works. The managerial processes decide about the allocation of disposable resources and their input into the processes and the revenues and expenditures are assessed by them. The level of citizens´satisfaction having a textual reflection rather than a numerical representation is highlighted. An efficient method to be applied is the benchmarking which compares the different coefficients of different organisations or self-governments within the same processes.

On the other hand the most important contributions of procedural management and process mapping can be seen in the following fields.:

- permanent monitoring of the achievement of both the processes and the organisation
- unequivocal definitions of main, managerial and supporting activities, it is important from the point of expended financial costs , organisation of work and meeting the demands of citizens.
- the ability to reveal the reasons for ineligible phenomena or narrow spaces in real time – i.e. during the process
- detailed description of the processes provides the possibility to prepare an accurate financial planning
- creating the procedural models leading to optimalisation of logistic approaches and furthermore to reduction of costs.

Conclusion

If we want the organisation to perform in the most appropriate way we have to focus on its smallest activity units because the organisation is as successful as its smallest process. To achieve this goal the procedural approach is suitable having a lot of advantages and it is applicable in any organisation. As a result of choosing the convenient method of assessing the processes we can reveal the issues of inefficient activities. The methods of assessment will be dealt with in a next paper.

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REGIONAL POLICY IN PRACTICE: THE CASE OF THE BRASOV METROPOLITAN AREA

NICOLAE MARINESCU[1]

ABSTRACT. This paper analyzes the implementation of regional policies in practice, by means of a case study conducted on the city of Brasov. Sibiu closed its mandate as the European capital of culture in 2007 successfully. In order to follow Sibiu's path, Brasov looked the future with the following aim in mind: to develop an integrated strategy for a metropolitan area. This area will include 1 city, 5 towns and 8 villages, summing up to about 400,000 inhabitants. Public authorities representing the involved entities have reached the conclusion that their interests concerning economic and social welfare as well as environmental protection converge. As follow, a strategy for the sustainable development of Brasov's metropolitan area for 2007-2013 has been designed. This strategy is supported by means of more than 80 projects, financed through national and EU sources. Due to the strong tourism potential of the area this paper focuses mainly on the tourism section of the strategy and on city marketing. It defines the objectives for tourism development and highlights the current problems associated with tourism in the area. Accordingly, policy recommendations are issued in this field, comprising city branding, promotional activities linked to tourism, quality of tourism services, development of specific attractions and infrastructure, as well as training for employees in tourism. Hopes are that, by stimulating new ideas related to tourism, one of the expected outcomes of the cooperation between public authorities and private firms will improve policy-making in the Brasov metropolitan area[2].

Key words: regional policy, metropolitan area, tourism, Brasov.

JEL classification: R1, R58

Introduction

In 2007 Sibiu reached an important position among Romanian cities, after hosting 337 projects organized by 301 Romanian and foreign cultural operators summing up to 2,062 artistic events in theatre, painting, music, film, dance, literature, architecture, contemporary art and cooking inside the program: "Sibiu – European Cultural Capital 2007" (Tomozei, 2008). Financing all these projects amounted to 13.4 million euro. It seems that the money was well spent, as Sibiu increased its visibility and awareness at national and international level. The number of

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tourists doubled compared to 2006 and tripled relative to 2005, amounting to almost 800,000, out of which around 40% were foreign visitors (www.sibiu.ro). The program Sibiu - European Cultural Capital 2007 is the most important project that was organized and took place in Romania, regarding both the amplitude and the impact on communication development between cultural, economic and political operators (Suciu and Incze, 2008). As Sibiu, boasted by infrastructural projects initiated during the cultural program, drew the final lines after what had been a busy and rewarding year, other cities in Romania, such as Brasov, aimed to replicate its success and developed an urban strategy for the years to come. As the literature on metropolitan regions suggests, a well-balanced urban system with an even mix of large, medium and small cities and towns, endowed with efficient transport networks, is the ideal territorial system in terms of efficiency and well-being (Capello and Fratesi, 2008). Along these principles, Brasov initiated the development of an integrated strategy for a Metropolitan Area, which will be investigated in detail in the second section of this paper.

Analysis of the Brasov Metropolitan Area

Brasov belongs to the Centre Development Region, one of the 8 development regions of Romania. Brasov County has the largest contribution to the region's GDP and has the highest level of urbanization. Together with other 13 surrounding cities and villages, the proposed Brasov metropolitan area will cover a surface of about 1,400 square km and will comprise an urban agglomeration of 407,187 inhabitants (about 70% of the County's population). Brasov, which has been the third most important centre of industrial development in the communist period, has suffered a lot during the `90s. More than 80,000 workers were laid off due to the decline of large industrial factories, producing mainly tractors, trucks, bearings and fertilizers. During the past few years, the unemployment rate in Brasov has been usually higher than the national average. The social and economic problems of the Brasov area would have become even more severe if part of the unemployed people wouldn't have been absorbed by various activities in service sectors.

When local authorities assessed the city of Brasov main problems prior to 2007, the following four aspects were identified:

- Bad infrastructure, including outdated sewerage systems, lack of sewerage in certain districts, damaged streets all over the outskirts, dirty residential areas, lack of social facilities and faulty local transport, especially in the adjacent areas;
- Economic deficiencies, due to lack of available real estate inside the city, weak state of small business, lack of coordination concerning economic development, insufficient usage of tourism potential (low occupancy rate);
- Social problems of demographic nature, migration of the workforce, quarters with mainly elderly population, burglaries in the outskirts, unemployment;

- Environmental problems due to heavy road and rail traffic, polluted rivers and the unsafe garbage pit outside the city.

Once these problems have been pinpointed, new measures of coordination were designed for the city of Brasov and the neighbouring settlements. Thus, some common objectives of development emerged:

- Rehabilitation of infrastructure (ring-road, highway, airport, sewerage lines);
- Sustaining of economic development and tourism (industrial parks, logistics centres, business environment, tourism as a main priority for sustainable development);
- Improvement of social infrastructure and facilities, training of human resources;
- Environmental protection (integrated waste management, improvement of living conditions through better air quality).

Accordingly, to address the objectives mentioned above, the following planning steps have been undertaken:

- Strategies have been designed for sustainable development, tourism, energy, air quality management and integration of Rroma population;
- Annual market surveys (beginning with 2004) have been carried out to identify the perception of Brasov citizens and their needs;
- Digitalization of the maps of the area;
- Initiation of a Strategy for the Development of the Brasov Metropolitan Area (2007) together with a territorial systematisation plan.

So far, several actions have been carried out or are in full swing in each of the four areas identified as problematic at city level:

- Work has begun on the ring-road (two-thirds of its length are finished by now), so as to deflect heavy traffic from the inner part of the city;
- Two of the outskirts have been linked to the central part of Brasov by means of passages and roads;
- Rehabilitation of the street network and creation of parking areas;
- Attracting foreign investments (mainly car-part industry, mainly from Germany);
- Establishment of two tourist information centres (in the main square of the historical part of the city and at the railway station);
- Renovation of the Zoo and arrangement of the Pedestrian Area in the historical centre;
- Modernization of parks and organization of new playgrounds for children in each quarter;
- Construction of a night shelter and of a new shelter for elderly people;
- Initiation of police bureaus in each of the main quarters of the city;
- Drawing up the “noise map” for the city, introduction of air quality monitoring and afforestation programs on the hills and mountains surrounding the city;
- Selective collection of garbage throughout the whole city.

The Brasov Metropolitan Area is relatively compact by geographical standards, fitting into a square of about 37 km length of each side. The idea of the metropolitan area emerged together with an integrated approach for urban development, so as to ensure sustainable development, an optimal coordination between economic, social and environmental issues and a balanced development between central and adjacent parts of the city. As the experience of various EU-countries has shown, integrated approaches to urban problems have generated solid economic growth and solved social problems at the same time. Consultancy in this matter was provided to local authorities by specialists of the EU in the URBACT programme during 2007.

In such a context, an integrated plan for urban development needs to be formulated and then implemented. In charge of the integrated urban development plan for the Brasov area is the Metropolitan Association Brasov (founded January 2006), formed as a non-governmental organization. The board is represented by the mayors of the 14 cities and villages involved. The stakeholders include all public and private entities with which the association has already concluded or will conclude collaboration agreements and finally, the citizens of the Brasov area, by means of public consultation.

The integrated urban development plan will be instrumented by means of a succession of more than 80 individual projects correlated with each other so that they should fit into the general scheme. Projects will amount to some 485 million euro and will be directed towards:

- Rehabilitation of urban infrastructure and building of access roads to the Brasov metropolitan area so as to reduce pollution and improve mobility;
- Introduction of an integrated public transport system, with adequate traffic signalling;
- Restoration of the buildings in the historical centres and introduction of a thematic tour comprising the main tourist objectives of the metropolitan area;
- Construction and modernization of cultural and sports facilities (theatre, seat of the Philharmonic Orchestra of Brasov, multi-sports hall, Olympic ice-skating ground);
- Placing of bicycle tracks in the main cities;
- Organization of two industrial parks nearby Brasov;
- Building of a business and exhibition centre as well as a logistics centre;
- Introduction of a public security system at metropolitan level;
- Closing down outdated warehouses & plants not compliant with environmental norms.

More than half of these projects are funded through the Regional Operational Programme (Priority Axes 2, 3, 4 and 5 – infrastructure, business environment, sustainable development and tourism) and other sources of financing, such as local budgets, the European Bank for Reconstruction and Development, Sector Operational Programme on Environment, European Regional Development Fund (ERDF), public-private partnerships and private investments.

Table 1.

Projects managed by the Brasov Metropolitan Agency (EU funding)

Title	Objective	Funding	Amount (€)
LINKS	Maintain vitality of old European cities	URBACT II	n/a
MMOVE	Improving efficiency of mobility policies	INTERREG IV C	1,859,321
Qualicities	Improving professional skills of policy-makers	Leonardo da Vinci	n/a
MobiPLAN	Improving spatial development	Leonardo da Vinci	n/a
SAFELAND	Guidance on crime prevention	European Commission	45,079
Information & Comm. Infrastructure	Improve electronic communication	ERDF	21,150
Jessica for Cities	Urban development	URBACT II	23,536
Integrated services for Community Police	Integrated police network	PHARE 2005	121,868
Integrated unit for emergency situations	Integrated network for emergency intervention	PHARE 2005	121,607
Non Formal Education in Youth Centres	Innovative methods and tools of education	Youth in Action	12,000

Source: data compiled by the author from www.metropolabrasov.ro

The Brasov Metropolitan Agency has been set up at the end of 2005 as the authority to manage projects linked to the metropolitan area. An overview of projects that have been initiated and some already implemented with external funding and with the advisory help of the Agency is listed in Table 1.

The benefits of all the above-mentioned investments, once the projects will be finished, are not difficult to foresee. A better transport system, with reduced waiting times and a more fluent traffic would be an important improvement. All activities included in the projects involve new jobs in construction, various services, tourism. Once the projects will be fully implemented, the region is expected to enjoy a higher level of interest expressed by various investors, with an enhanced awareness at national and international level. This is particularly important for the development of tourism, issue which will be addressed in the third section of this paper.

Measures for Tourism Development in the Brasov Metropolitan Area

Brasov is known as an important tourist city in Romania, especially for mountain tourism, as well as a historical city and an academic and cultural centre. It concentrates the largest number of hotels and restaurants in the region (40.5% out of the total), but is plagued by a very low average occupancy rate – around 33% (Pop et al., 2007).

The general objective of the tourism component of the Strategy for the Development of the Brasov Metropolitan Area is to raise the competitiveness of the area as a tourism location by enhancing the quality of services and the capitalization on the natural and cultural heritage so as to respond to the expectations of citizens, tourists, visitors and business people without adversely affecting the environment.

Specific objectives include:

- Creating a distinct brand for the Brasov Metropolitan Area as a tourist destination adequately promoted through selected channels of communication;
- Introduction of an evaluation system for the quality of tourism services;
- The development of genuine tourist products and services with local features, addressing domestic and foreign tourists;
- Developing leisure alternatives for Brasov citizens and tourists alike;
- The creation of a common and balanced general framework for the development of tourism by correlating the initiatives of different stakeholders in the field of tourism;
- The creation and development of travel packages so as to reduce the seasonality of tourism supply;
- Identification and development of alternative tourism prospects, scarcely existent within the actual offer within the area;
- The development and modernization of tourism infrastructure in accordance with the other initiatives included in the general strategy;
- Improvement of professional training in tourism, through diversification and integration of the educational offer by high-schools and by the universities from the region.

The above-mentioned specific objectives are well-intended, but may never reach their goal if they stick only to vaguely-phrased ideas with no precise application and if proper coordination won't be achieved between public administration and private tourism firms.

Let's take, for instance, the creation of a specific brand for the metropolitan area as a whole in order to launch it as a travel destination. Romania's attempts, during the past few years, in creating a country brand or slogan were all ill-fated, even though they seemed to be good ideas when initiated. What lacked, letting aside the marketing adequacy of the slogan or logo, was solid promotion at national and especially international level. The "stained" image of the country could not be changed just by creating a tourist brand or finding a good slogan.

Of all the country's attractions, the Lonely Planet guidebook recommends Brasov if the whole stay in Romania is intended just for one day. Despite this, Brasov is virtually unknown for the broad public at European level, even if it has a lot of beautiful sights and attractions to offer. Probably one of the largest problems that tourism confronts in Romania is the poor promotion of the country's values. Nobody denies that Romania has a lot to offer regarding tourism assets, but many agree that it still needs a more open and active promotion. In terms of negative aspects, this area does not have enough trained tourism staff, nor a good image promotion or a good infrastructure (Stefan, 2008). Another significant weakness of Romanian tourism is the lack of communication and cooperation between the public and private sector. If such cooperation could be achieved, tourism would grow on the right path and this would reflect itself in larger numbers of visitors and business development.

Thus, one of the most important measures in marketing the city of Brasov would be to unfold a consistent promotional campaign targeting the most important European tourist outgoing countries. Promoting the city at national and international level should be done by means of a private-public partnership with companies active in the tourism field so as to represent Brasov at all the major international tourism fairs and exhibitions. The big European tour-operators have to be targeted actively if tourism in the area is meant to increase.

The website www.brasov.ro also needs reshuffling, considering the ever-increasing number of tourists that search and book their holiday destination online. The website features extensive information about the city's tourist attractions, the "compulsory" list of accommodation possibilities, restaurants and leisure opportunities, but lacks attractiveness, clarity, live images, interactivity (forum, impressions), as well as niche information for different travellers. The featured map is not very helpful either. A comparison to Sibiu's website (www.sibiu.ro, better from quality point of view) in this respect is more than revealing for a visitor who enters both. The official website should also be updated faster, to include images and links to all the possible leisure activities to be found in Brasov (e.g. the newly opened largest indoor water-park and largest adventure-park in Romania).

A further program should be initiated for the identification, preservation and restoration of all the monuments in Brasov, alongside the renovation of all the old churches and fortified remains of the past and their subsequent inclusion in tours and travel circuits. Architectural lighting should be also part of the program. Popular festivals and events, organized each year, such as the "Days of Brasov", the Tourism Fair and the "Golden Stag" international music festival should remain a continuous tradition. The idea of building an amusement park on the site of a torn-down factory should not be neglected either, taking into account the large effective demand for recreational activities suggested by the citizens of the Brasov area in the case of similar initiatives.

The quality of services is another aspect that needs important improvements. The issue of quality stands out as a long-term criticism expressed by foreign visitors assessing Romanian tourism. In this context, human resources and a continuous improvement of their capabilities will be one of the critical elements for the success of a strategy for the development of tourism. This comes along with a serious commitment towards ensuring a higher quality of services and an orientation of firms towards the customer (Marinescu, 2007). Local authorities could design specific training programmes for employees and managers involved in tourism activities, which should include taking over of European regulations and norms (Marinescu, 2006).

Conclusions and Recommendations for Policy-Making

Analyzing the whole situation of the Brasov Metropolitan Area and the most troublesome aspects it faces, some recommendations for administrative and regional policy in the Brasov area emerge.

The rehabilitation and modernization of the public road network was and remains a priority for the area. The street network is pretty well developed, but still can't handle the 200,000 vehicles that are driven every day on the city's streets. During the previous year, local authorities have tried all sorts of solutions to ease the traffic, but the efforts seem to be in vain. Even though nine roundabouts have been arranged instead of traffic lights for the big crossings, the streets are crowded as before, causing noise and air pollution.

Once finished, the ring-road will deflect the heavy traffic and other small trucks that transit Brasov city. However, the real problems are still generated by the cars that drive on a daily basis on the streets of Brasov. One solution for the fluency of Brasov's traffic and the significant reduction of pollution would be to build a tangent highway that should enable the access to and from each of the big neighborhoods and should be connected to the outer ring-road of Brasov (Roiu and Oltean, 2008).

Even though a costly initiative, this type of project should be seen as a long-term investment which implies many more outputs than inputs. If considered a feasible and sustainable project, from a financial, logistics and human resources point of view, EU non-refundable grants for the development and consolidation of the infrastructure could be obtained.

Another important issue is environmental protection. Little has been done for refraining people from throwing all kind of waste (including non-biodegradable) in the surroundings of Brasov and in the nearby river courses. This is an old and uncivilized practice and happens mostly because of the lack of a proper sewerage system (Godeanu, 2008). Even if city halls in the villages included in the Metropolitan Area considered laying out warning signs with the following message: "Dumping waist is forbidden and is punished according to the law", most people ignore those signs. The authorities who have installed them in the first place, left them to rust, so that nowadays one can barely read the written message.

The most efficient measure to be taken for a long-term approach on the environment is the introduction of a strict and objective education at every level of Brasov's education system, so that children and students should learn from an early age what nature means and why it is important to maintain the entire natural environment clean and unspoiled. After that, citizens should transform this education into personal consciousness, making each one aware that environmental problems represent in fact our own health and life.

The last of the issues to be addressed here is tourism in the area surrounding Brasov. The magnificent scenery offered by Fagaras County and its majestic mountains is often put under the shadow by infrastructure and environmental problems. Infrastructure is in bad shape: roads are hardly suitable for this name, there is no current water in many villages, there are a lot of unhygienic wells, with a large amount of calcareous concentration, no ecological pit and in some villages there aren't any doctors (Bardasuc and Cristea, 2008). Young people and persons under 40 years old have usually left the area and are currently working abroad in Italy or Spain. Adapting abroad and making more money to satisfy their families' needs that stayed at home isn't easy. Many of them left their kids alone or with grandparents, endured divorces, separations and the families they left behind are far from happy or felling secure. Some examples of things that can change the grey face of the city and its surroundings concern the tourism alternative. Rural tourism is a form of tourism relatively new to Romania that appeared to be the perfect solution for increasing profits for villagers by capitalizing on their potential, mainly surplus of accommodation as well as genuine goods and services, offered to people seeking relaxation. Religious tourism is also to be considered, with the large number of monasteries located in this region, proudly presenting the icons painted on glass. Lastly, equestrian tourism is a hot newcomer. In Fagaras County, the Sambata de Jos Stud, dating from 1874, is the only stud in Romania where you can find the pure breed of Lipizzaner horses, famous all over the world.

Summing up, the Brasov Metropolitan Area displays a vast array of potential projects for development. It remains to be seen how many of these projects will gather momentum and will receive proper funding. However, their success hinges crucially on the willingness of public and private bodies to cooperate in their initiatives.

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DO THE MACROECONOMIC FACTORS INFLUENCE THE ROMANIAN EQUITY PRICES?

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ABSTRACT. Asset prices are commonly believed to react sensitively to economic news. The purpose of this article is to investigate following issues: first, what kind of factors affects Romanian equity market returns and second, how well the APT model can explain Romanian equity returns. The paper will analyze if the market risk is the most influential risk factor or there are some other factors influencing the price returns. This article will survey 30 shares listed at Bucharest Stock Exchange, the economic factors that might influence these socks, and the correlation between the equity prices and the chosen macroeconomic factors. In the final part, ordinary least squares regressions will be ran in order to test the APT, but also the influence of the studied macroeconomic factors upon the share prices during the analyzed period (January 2002– June 2010) will be observed.
Results suggest that every equity has a positive mean excess return, but none of them is normally distributed according the Bera-Jarque test. Also the macroeconomic variables have a positive mean return and no factor is normally distributed. Regarding the correlations between the titles and the macroeconomic factors, it can be observed that they are relatively weak and not significant. Finally, it can be observed that the macroeconomic factors that were used influenced the price of the 30 equities under scrutiny during the entire analyzed period, except for the unemployment rate and the inflation.

Key words: macroeconomic factors, capital market, multiple regression.

JEL classification: E00, O16, C30

Introduction and literature review

Asset prices are commonly believed to react sensitively to economic news. Daily experience seems to support the view that individual asset prices are influenced by a wide variety of unanticipated events and that some events have a more pervasive effect on asset prices than do others.

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The most famous multi-factor model is the Ross's APT which was developed in the year 1976. The model starts by assuming that equity's return depends partly on pervasive macroeconomic influences or factors and partly on noise (Brealey et al. 2006). The APT has been widely discussed in literature (e.g., Chen 1983, Connor & Korajczyk 1986, Berry et al.1988, Groenewold & Fraser 1997, Sharpe 1982).

The APT model has been empirically studied in several markets, e.g., Antoniou et al.(1998) implemented it to London Stock Exchange, Dhankar & Esq (2005) to Indian stock market, Berry et al.(1988) to S&P 500 Index, while Chen et al.(1986) to New York Stock Exchange, Azeez & Yonezawa (2003) to Japanese stock market and Anatolyev (2005) to Russian stock markets.

For this paper, first it were taken into consideration several of the same macroeconomic variables that Chen et al.(1986) used in their study of US equity index returns. Second, some other macroeconomic variables that could have an effect on the Romanian equity market were searched.

In general, the number of factors that influence equity returns extracted from factor analysis has been a source of much contention. The advantages and disadvantages of using factor analysis to identify the influences are well documented in the literature; e.g., Brown & Weinstein (1983) and Gibbons (1982). Trzinka (1986) finds five dominant factors within returns for a sample of US firms; Cho (1984) uses interbattery factor analysis on a range of US industries and documents that the number of factors ranges from between two and five. Cho et al.(1986) perform a similar analysis at the international level for eleven industrial economies and report between one and five factors. Groenewold & Fraser (1997) found three factors for Australian share market. Cheng (1996) examined the UK market and found that "the market factor alone appears to incorporate most of the information contained in the underlying multiple factors". The number of factors ranges from zero to almost ten in the examined papers.

While there is no formal guidance choosing the right macroeconomic variables to the APT model, Chen et al.(1986) suggest a discounted cash flow approach for their selection. They also argue that because current beliefs about these variables are incorporated in price, it is only innovations or unexpected changes that can affect returns. On this basis they select five variables for their study:

(1) the unanticipated change inflation rate;
(2) the change in expected inflation;
(3) the unanticipated change in term structure;
(4) the unanticipated change in risk premium;
(5) the unanticipated change in the growth rate of industrial production.

They found that variables (1), (4) and (5) are significant determinants of U.S. equity returns. Almost all published studies of testing the APT through selected macroeconomic variables have used these macroeconomic variables, or else very close related to these (Chen et al.1997). Papers that have implemented this macro-economic APT for other countries find that the same types of variables as those used by Chen et al.(1986) are priced as well as other more country-specific variables[2].

It is well known that the macroeconomic variables chosen by Chen et al.(1986) have been the foundation of the APT. It is worth pointing out, why these variables could affect equities' returns:

1) *Inflation:* Inflation impacts both the level of the discount rate and the size of the future cash flows.
2) *The term structure of interest rates:* Differences between the rate on bonds with a long maturity and a short maturity affect the value of payments far in the future relative to near-term payments.
3) *Risk premium:* Differences between the return on safe bonds (AAA) and more risky bonds (BAA) are used to measure the market's reaction to risk.
4) *Industrial production:* Changes in industrial production affect the opportunities facing investors and the real values of cash flows.

Exploring each alternative, it could be observed that the stock investment is regarded as a hedge against inflation. However, empirical tests have found a negative relationship to exist between inflation and nominal stock returns (Gultekin, 1983). It is also widely accepted that current stock levels are positively related to future levels of real activity, as measured by industrial production. As for the exchange rates, these will adjust to reflect relative inflation levels, and the law of one price will be upheld.

These are only examples how macroeconomic variables can be chosen. Thus, one should decide the right factors for the specific purposes, because every country that is examined has its unique features (Bilson et al.2000).

As for the Romanian capital market, it experienced ups and downs since its founding. Currently, Romania is an emerging market. Emerging stock markets have been identified as being at least partially segmented from global capital markets accordingly, and this supported the idea that macroeconomic factors are the primary source of local price changes or these markets. The analyzed literature suggests that a wide range of factors may be relevant. Such variables include the prices for consumer goods, the money supply, the exchange rates and interest rates,

[2] E.g., the growth rate of money supply, oil and gold prices, and exchange rates with various countries. See van Rensburg (1999) for South Africa, Groenewold & Fraser (1997) for Australia and Antoniou et al.(1998) for the United Kingdom. Sadorsky (1999) studied the relationship of oil prices changes and stock return for the US and found out that oil price changes and oil price volatility play important roles in affecting equity returns.

political risk, oil prices, and the trade sector indices. However, for emerging markets there is suggested that not all of these variables are either relevant or appropriate (Chen et al.1986).

Material and methods

The regression model used includes several independent variables; it is known as a multiple regression model. The true relationship between the independent variable Y and the various independent variables, the X_is, is given by:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \cdots + \beta_n X_n + \varepsilon \quad (1)$$

In our study we switch the X_is with macroeconomic variables. The regression equation is:

$$R_{it} = \beta_{1i} INF_t + \beta_{2i} DOB_t + \beta_{3i} SOM_t + \beta_{4i} AU_t + \beta_{5i} IPP_t + \beta_{6i} SAL_t + \beta_{7i} RS_t + \beta_{8i} Rbet-c_t + \varepsilon_t \quad (2)$$

where:
R_{it} is the logarithmic excess return of the asset *i* for month *t*;
INF_t is the logarithmic return of inflation;
DOB_t is the logarithmic return of the interest rate;
SOM_t is the logarithmic excess return of the unemployment rate;
AU_t is the logarithmic return of the gold price;
IPP_t is the logarithmic return of the price index of industrial production;
SAL_t is the logarithmic return of the average net earnings
RS_t is the logarithmic return of the exchange rate
$Rbet - c_t$ is the logarithmic excess return of BET-C index.

This first-pass time series regression will yield estimates for the β_{1i}, β_{2i}, ..., β_{8i}. This will be repeated for i = 1, 2, ..., 30 chosen shares so that result in 30 values for each of the betas.

In the second step, we use cross-sectional regression. This regression equation is:

$$\bar{R}_i = \lambda_0 + \lambda_1 \beta_{1i} + \lambda_2 \beta_{2i} + \lambda_3 \beta_{3i} + \cdots + \lambda_8 \beta_{8i} + \varepsilon_i \quad (3)$$

where $\bar{R}_i$ is the mean logarithmic excess return for asset i, β_{1i} to β_{8i} represent the sensitivity of a security's return to factor *j* and is a measure of the risks inherent in the security under study; λ's represent the reward for bearing these risks (price risk).

Hence, in equation (2), the β_{ij} are the variables which are different across the 30 titles; the λ_{ij} are the same for all securities and hence these can be estimated from the cross-section regression equation (3).

Test assets are represented by 30 companies listed on Bucharest Stock Exchange within the 1st and 2nd category. The macroeconomic factors that are used are the following: inflation, interest rate, unemployment rate, gold price, and price index of industrial production, average net earnings and the exchange rate. The market as a factor will also be used.

The data for this study was collected from the monthly bulletins, respectively the annual reports published by the National Bank of Romania (NBR), the Bucharest Stock Exchange (BVB) and the National Institute of Statistics (INS). For analyzing these data, it was used both the regression model and the EViews programme. The period under analysis is January 2002 – June 2010. All data are calculated on a monthly interval.

Results and discussions

A brief review of the Romanian market evolution

After the collapse of communist and social regimes at the beginning of 1990s, a number of Central and Eastern Europe (CEE) countries started their journey into capitalism and privatization. The 1989 Revolution, which signified an important turning point in our national history, has imperatively imposed, through the resulting reform programme, the necessity to recover the capital market and its related institutions, including the Bucharest Stock Exchange. A group of specialists in various economic sectors benefited the chance, sometimes asserted as unique in a lifetime, to recover this market, the starting point of this process being represented by year 1992. The recovery process was not easy. Starting with the legislative area two years were necessary until the adoption of Law no. 5 /1994 on transferable securities and stock exchanges accompanied by measures of educating the general public. The process continues today, and all those involve learn every day, that Bucharest Stock Exchange is an essential institution of a market economy, and its presence in the economic landscape provides am additional element to the path that joined the Romanian economy after 1990s.

After their launching, CEE equity markets have attracted interest of academics due to a number of reasons. First, these markets provide a great possibility to test existing asset pricing models and pricing anomalies in special conditions of evolving markets. Second, in the light of growing interdependencies between world equity markets due to enhanced capital movements, it is interesting to test the extent of which emerging markets are integrated with global markets. Third, since the early 1990s, there have been implemented major economic and financial reforms, resulting in the growing number of new financial instruments. A related question in this respect is whether investors in this market react to news or unexpected changes in economy in a similar fashion as those in advanced market economies. Last, due to the shocks that may have destabilizing effects on domestic financial markets. Although Romanian equity market has gained so much interest from foreign investors, there have not been so many quality analyses of Romanian equity market.

The market value of all stocks in Romanian equity market has changed dramatically, but it is still smaller than in other emerging markets. It is generally considered that the equities are undervalued. This indicates problems in Romania's politics, and risks that are included in companies and macroeconomics. Despite of these risks, Romania has also made a strong progress in development of its economy and that has on the other hand raised equity prices. For example the period 2003-2006 when the stock market broke record after record (BVB annual report 2009).

The stock market in Romania has been structured from the outset on two distinct components: the Bucharest Stock Exchange and RASDAQ, which subsequently merged into a single market, Bucharest Stock Exchange absorbing RASDAQ. The evolution of both markets was similar, being clearly influenced by economic and political developments. After an excellent start, overlapped to a high-level of policy changes during 1996, with a maximum value and traded quotations set in the summer of 1997, a large decline followed in the Romanian market. The end of the year 2000 can be considered the moment that marked a reverse trend. The exit from the financial crisis of 1998-1999 and the political changes in 2000 were factors that boosted the overall stock market development. The summer of 2001 marked the return of market shares on a rising trend. Between the years 2003-2006 a boom period for the stock market followed. A common element for the period 2003-2004 was the repeated delisting of the stock exchanges companies. In the recent years, there have been a series of events that influenced the stock market, among them: the privatization of various companies, the merger of the two exchanges, and not the least, Romania's EU accession. The evolutions at Bucharest Stock Exchange during 2007 were marked by foreign investor sentiment changes regarding the Romanian economy and its development prospects. The year 2008 represented for the Bucharest Stock Exchange, and also for all the participants, one of the most difficult periods in its modern history. The abrupt reversal of the upward trend of quotations and the sharp reduction of the general liquidity of the stock market were the direct consequences of the 2007-2009 financial crisis. From the economic cycle theory viewpoint, the 2009 trends of the Bucharest Stock Exchange regulated market seem to suggest the end of an 11 years cycle (BVB annual report 2009). If the year 2009 would get a distinctive mark, one that would differentiate it from the BVB previous years, this certainly is „the year of fixed income". The domestic stock market developments during 2009 suggest that the domestic capital market is facing a new cycle (BVB annual report 2009).

There are still many uncertainties about the economic and financial events 2010 and it is therefore difficult to elaborate how the capital market in Romania will grow this year. With a reasonable degree of probability, one could say that the stock market has finally left behind the multiannual lows reached in 2009, but they will not return in the 2010 to the record levels marked during the peak year of the Romanian capital market, 2007.

Descriptive statistics

The descriptive statistics for the 30 chosen companies listed at Bucharest Stock Exchange, between January 2002 and June 2010 are presented in the following table (table 1). The 30 companies were chosen due to data continuity for the period under scrutiny.

Table 1.

Descriptive statistics for the chosen 30 companies listed at Bucharest Stock Exchange, Jan.2002 - Jun.2010

Symbol	Observations	Mean	Standard deviation	Skewness	Kurtosis	Jarque-Bera	Kolmogorov-Smirnov
ALR	102	3.64	2.21	1.18	3.74	26.18	1.39
AMO	102	0.04	0.03	0.52	1.93	9.41	1.92
ARM	102	0.40	0.19	0.16	1.85	5.99	1.26
ARS	102	4.96	5.26	1.74	4.98	68.36	2.85
ART	102	9.82	16.10	2.32	7.68	184.27	3.13
ATB	102	0.81	0.60	0.64	1.99	11.23	1.72
AZO	102	0.27	0.12	2.24	9.04	240.39	1.63
BRD	102	10.82	8.27	0.46	1.92	8.63	1.80
BRM	102	1.62	0.95	0.69	2.95	8.05	0.93
CBC	102	6.27	5.36	1.15	3.42	23.17	1.84
CMP	102	0.79	0.59	0.37	1.57	11.01	2.26
ELJ	102	0.31	0.13	0.41	2.45	4.09	1.36
EPT	102	0.29	0.31	2.47	8.75	244.26	3.21
IMP	102	0.49	0.24	0.67	4.11	12.88	1.14
MEF	102	2.54	1.20	0.37	2.54	3.26	0.63
MPN	102	0.36	0.30	7.16	65.57	17511.25	2.60
OIL	102	0.27	0.24	1.82	5.82	89.89	2.64
OLT	102	0.35	0.30	1.62	5.28	66.99	1.67
PEI	102	71.51	51.52	0.61	2.05	10.23	1.85
PPL	102	8.39	9.90	1.93	5.61	92.45	2.94
PTR	102	0.44	0.49	1.81	5.49	81.89	2.63
SCD	102	1.06	2.14	6.99	55.11	12373.64	3.48
SNO	102	6.02	3.95	1.62	5.90	80.57	2.19
SNP	102	0.32	0.17	0.18	1.64	8.40	1.13
SRT	102	0.15	0.18	3.18	14.18	702.73	2.49
STZ	102	0.32	0.22	0.90	3.79	16.30	2.96

Symbol	Observations	Mean	Standard deviation	Skewness	Kurtosis	Jarque-Bera	Kolmogorov-Smirnov
TBM	102	0.53	4.31	1.36	3.95	35.48	2.38
TLV	102	0.85	0.50	0.85	3.40	13.04	1.12
UAM	102	0.69	2.25	9.69	96.66	38877.64	4.11
ZIM	102	2.17	1.01	0.09	1.92	5.06	1.50

It can be observed that every equity has a positive mean excess return, and the values vary between 0.04 and 71.51. However, the relative high level of risk of the Romanian equity markets is shown in large standard deviations. In our case, Petrolimportexport (PEI) has standard deviation of 51.52, because its equity price has ranged between 3.3500 and 198.0000 RON inside the sample period. Almost every equity has a positive skewness. This implies that equities have had many large positive returns, because the mean is larger than median or mode, and distribution's tail is long to the right. Also, it can be observed a very high degree of kurtosis. Bera-Jarque test shows that no equity is normally distributed, and Kolmogorov-Smirnov test showed that the amount of normally distributed equities grows to 2.

Also, as table 2 shows, each macroeconomic variable has a positive mean return, and the standard deviation is relatively closed to the mean.

Table 2.

Descriptive statistics for macroeconomic factors (2002 – 2010)

	Observations	Mean	Standard deviation	Skewness	Kurtosis	Jarque-Bera	Kolmogorov-Smirnov
Gold Price	102	56.98	24.56	1.14	3.66	23.81	1.77
BET-C Index	102	3107.51	1784.60	0.47	2.16	6.67	1.12
Exchange Rate	102	3.69	0.37	-0.22	2.49	1.92	1.12
Interest Rate (%)	102	13.64	7.60	1.19	3.51	25	2.93
Inflation (%)	102	0.70	0.55	1.02	3.98	21.74	1.26
Price Index of Industrial Production	102	107.00	25.83	-0.14	1.84	6.02	1.17
Average Net Earnings	102	882.02	364.65	0.21	1.65	8.53	1.20
Unemployment Rate (%)	102	6.41	2.03	1.20	5.05	42.26	1.10

The factors have both positive and negative skewness. As for the kurtosis, the values show a relatively normal distribution, while Bera-Jarque test shows that no factor is normally distributed. Thus, normality was also tested with Kolmogorov-Smirnov test that indicates that no factor is normally distributed.

There have also been studied the correlations between the macroeconomic factors. Most of the correlations are relatively weak and not significant. The correlation matrix can be found in the next table 3.

Table 3.

The Pearson correlation between the macroeconomic factors

	Gold Price	BET-C Index	Exchange Rate	Interest Rate	Inflation	Price Index of Industrial Production	Average Net Earnings	Unemployment Rate
Gold Price	1.000							
BET-C Index	0.192	1.000						
Exchange Rate	0.634	-0.196	1.000					
Interest Rate	-0.609	-0.729	-0.330	1.000				
Inflation	-0.414	-0.379	-0.264	0.513	1.000			
Price Index of Industrial Production	0.881	0.518	0.507	-0.815	-0.523	1.000		
Average Net Earnings	0.903	0.449	0.470	-0.756	-0.477	0.981	1.000	
Unemployment Rate	-0.255	-0.724	-0.198	0.785	0.394	-0.625	-0.533	1.000

It can also be seen, in table 4, which are the correlations between the 30 shares included in the study and the macroeconomic factors. The data shows that the correlations are relatively weak and not significant. The main correlations are with the market factor, namely BET-C.

Table 4.

The Pearson correlation between the macroeconomic factors and the 30 titles

	Gold Price	BET-C Index	Exchange Rate	Interest Rate	Inflation	Price Index of Industrial Production	Average Net Earnings	Unemployment Rate
ALR	0.031	0.867	-0.457	-0.269	-0.192	0.356	0.297	-0.623
AMO	-0.079	0.779	-0.525	-0.226	-0.232	0.248	0.144	-0.573
ARM	-0.427	0.542	-0.196	-0.163	-0.110	-0.136	-0.273	-0.430

	Gold Price	BET-C Index	Exchange Rate	Interest Rate	Inflation	Price Index of Industrial Production	Average Net Earnings	Unemployment Rate
ARS	-0.193	0.740	-0.291	-0.426	-0.050	0.043	0.016	-0.435
ART	0.030	0.806	-0.416	-0.348	-0.099	0.295	0.283	-0.548
ATB	0.173	0.971	-0.688	-0.257	-0.369	0.489	0.433	-0.694
AZO	0.200	0.000	-0.054	0.294	-0.161	0.255	0.198	-0.124
BRD	0.341	0.919	-0.703	-0.171	-0.368	0.592	0.561	-0.625
BRM	-0.413	0.551	-0.196	-0.203	-0.019	-0.155	-0.250	-0.389
CBC	0.153	0.879	-0.561	-0.239	-0.263	0.498	0.459	-0.729
CMP	-0.186	0.795	-0.511	-0.280	-0.204	0.145	0.050	-0.560
ELJ	-0.149	0.729	-0.484	-0.165	-0.292	0.199	0.101	-0.628
EPT	0.047	0.756	-0.404	-0.259	-0.128	0.319	0.292	-0.550
IMP	-0.010	0.529	-0.307	-0.065	-0.121	0.050	0.017	-0.151
MEF	-0.765	-0.282	0.663	-0.277	0.416	-0.763	-0.807	0.356
MPN	0.170	0.409	-0.336	0.119	-0.242	0.351	0.304	-0.418
OIL	0.187	0.827	-0.541	-0.166	-0.169	0.476	0.442	-0.633
OLT	0.164	0.872	-0.578	-0.213	-0.223	0.473	0.433	-0.663
PEI	-0.318	0.548	-0.309	-0.245	-0.203	-0.068	-0.182	-0.354
PPL	-0.378	-0.110	0.113	0.116	0.068	-0.277	-0.356	-0.023
PTR	0.234	0.785	-0.506	-0.179	-0.247	0.473	0.466	-0.577
SCD	0.016	0.443	-0.250	-0.166	-0.082	0.163	0.138	-0.282
SNO	0.170	0.727	-0.501	-0.055	-0.232	0.427	0.392	-0.599
SNP	0.124	0.929	-0.722	-0.167	-0.432	0.442	0.347	-0.682
SRT	-0.349	-0.176	0.353	0.070	0.161	-0.364	-0.393	0.144
STZ	0.288	0.919	-0.682	-0.126	-0.388	0.588	0.529	-0.724
TBM	-0.462	-0.078	0.118	-0.010	0.105	-0.397	-0.478	0.077
TLV	0.624	0.398	-0.607	0.418	-0.401	0.571	0.550	-0.139
UAM	0.076	0.246	-0.145	-0.011	-0.090	0.185	0.162	-0.220
ZIM	-0.186	0.617	-0.264	-0.484	-0.097	0.107	0.062	-0.378

Table 5 contains the results from fitting the model as described in equation (2) to each of the 30 titles.

Table 5.

Results from the first regression for the period Jan.2002 – Jun. 2010.

	N	$\beta1_{BET\text{-}C}$	$\beta2_{DOB}$	$\beta3_{SOM}$	$\beta4_{AU}$	$\beta5_{INF}$	$\beta6_{IPP}$	$\beta7_{SAL}$	$\beta8_{RS}$	Adjusted R^2
ALR	102	0.891792	0.116210	-0.339597	0.434592	2.458251	1.118951	-0.147283	-1.589800	0.336044
ATB	102	0.954543	-0.095363	0.029465	0.105031	-1.242172	0.997202	-0.198880	0.405138	0.414456
AZO	102	0.946712	0.574946	-0.200913	0.131671	-2.432866	1.532828	-0.499386	1.207131	0.177419
BRD	102	0.982584	-0.179387	-0.572274	1.708363	-2.711147	-5.957663	0.812995	-1.136769	0.067101
OIL	102	1.021159	0.031623	0.123259	0.338230	1.517333	2.568594	-0.541832	-1.230515	0.029496
OLT	102	1.087248	-0.167718	-0.263518	-0.478877	2.314679	1.185800	-0.069119	0.730000	0.271547
IMP	102	1.555283	-0.133824	0.388797	0.578286	2.299709	-3.219407	0.077744	0.238475	0.210445
SNP	102	1.280547	0.223313	-0.047988	0.048636	1.146402	-0.567197	-0.01996	0.434412	0.736451
TBM	102	0.928860	-0.290542	0.601699	-0.944349	-0.664795	-2.996682	-0.321356	2.458799	0.024789
TLV	102	0.684876	0.201633	0.547977	-0.149151	3.322639	-2.404028	-0.096906	3.198969	0.094466
SCD	102	1.869879	-1.306895	0.375023	0.006694	5.310020	-3.529920	-1.005433	3.028402	0.049536
MPN	102	1.168801	0.573992	-0.571154	0.923318	0.609018	-2.644795	-0.905086	1.566314	0.046277
ARS	102	0.815346	-0.017601	0.491557	0.109391	2.833287	-2.739406	-0.927790	0.878927	0.044336
CMP	102	1.304130	-0.254485	0.134105	-0.070906	-3.549046	0.478041	-0.367153	0.466536	0.396550
PTR	102	0.920512	1.583464	-0.814287	0.879445	-6.863201	-0.686876	0.243871	1.547502	0.059560
SNO	102	-1.156830	3.242423	-0.875435	0.805441	-6.818085	5.278552	1.353880	-4.083262	-0.024946
EPT	102	1.019697	0.044646	-0.031820	0.011428	-1.585377	0.168491	-0.008149	0.258565	0.103760
PPL	102	-0.451835	0.875554	-0.170292	-0.481804	-9.486388	3.809719	0.148866	-2.185515	0.003982
AMO	102	0.889979	0.154073	0.164903	0.389065	0.973019	1.674853	-0.642526	-1.184214	0.192368
STZ	102	0.815070	0.223957	-0.127183	0.344948	-2.015328	1.850353	-0.527505	-0.493584	0.206024
CBC	102	0.709484	0.630394	-0.271682	0.523197	3.771016	-0.706331	0.066802	-0.683345	0.139334
UAM	102	1.795367	0.885767	-0.623434	0.434567	1.887059	-1.574585	-0.607694	2.066386	0.059064
BRM	102	0.979491	-0.173909	-0.129969	0.307688	-2.313790	-1.872331	-0.560916	0.490368	0.314472
PEI	102	-0.549099	2.145881	0.138546	0.187168	-6.152052	5.461303	0.544515	-3.528854	-0.012522
ARM	102	0.632233	0.124001	-0.021182	0.320009	0.560641	1.808110	-0.712265	-1.299113	0.295972
ELJ	102	0.414252	0.358477	-0.171267	0.096100	2.381147	0.049721	-0.042631	-0.225747	0.063328
MEF	102	0.761480	0.465994	0.016930	0.220938	3.009560	-0.178019	-0.341690	-0.705105	0.180524
ZIM	102	-0.757991	2.082462	-0.125091	0.538765	0.860420	3.527568	0.801956	-4.095844	-0.021144
ART	102	0.961030	-0.208767	0.258930	-0.010203	-0.183442	3.152728	-0.331246	-2.257974	0.304696
SRT	102	1.480727	-0.969876	0.442564	-0.151779	7.053365	-4.273918	-0.512820	2.367387	0.022093

As it is evident from the table 5 above, the factors are significant for the 30 shares under scrutiny. When examining the adjusted R^2, its value differ greatly between the equities; in some cases the R^2 is negative; for some titles it get close to 74%. The majority of R^2 values are between 15 and 74%, so these result are quite promising.

When the cross-section regression was performed, the following equation was obtained:

$$\bar{R}_i = \underset{(-0.587675)}{-0.002718} + \underset{(1.696837)}{0.008828}\beta_{BET\text{-}C} + \underset{(-2.322294)}{(-0.006012)}\beta_{DOB} + \underset{(-0.124787)}{(-0.000665)}\beta_{SOM} + \underset{(4.099288)}{0.025519}\beta_{AU}$$

$$+ \underset{(0.336933)}{0.000170}\beta_{INF} + \underset{(4.340652)}{0.006678}\beta_{IPP} + \underset{(3.066665)}{0.013371}\beta_{SAL} + \underset{(2.808488)}{0.007225}\beta_{RS}$$

with adjusted R^2 = 0.695270.

The results show that two factors have no influence on the 30 shares:
β_{SOM} (the unemployment rate) and
β_{INF} (the inflation).

The other factors provide a remarkably good description of the behavior of the cross-section of average security returns with expected returns predicted by the APT explaining over 69% of the cross-sectional variation in average excess returns. This finding is interesting for it suggests that the APT specification for the model used here is quite capable of explaining cross-sectional variation in observed security returns in Romanian equity market.

As defined by the current model, the prices of bearing risks for the market factor BET-C, gold price, inflation, price index of industrial production, average net earnings and the exchange rate are positive and for the interest rate and unemployment rate negative – although the values are very low. According to null hypothesis, the constant should be zero. However, for the regression the constant is negative and relatively significant.

These results give some guidance regarding how the expected returns for the equities under scrutiny should be determined. For example, with Rompetrol Well Services (PTR) it was found that its β value for the exchange rate is 1.547502. If an investor thinks that the exchange rate will increase, the investor could buy more Rompetrol Well Services's equities for his/ her portfolio. This increase in the exchange rate would lead to a 1.547502* 0.007225 = 0.011180% contribution in *expected excess return* of PTR, which might be just sufficient to reward the investor for the additional risk.

Conclusions

In this study it was examined the APT model and its efficiency in Romanian equity market. This paper explored a set of macroeconomic variables as systematic influences on equity market returns in Romania and has examined their influence on asset pricing.

Individual asset prices are influenced by a wide range of contingencies and some events have a more significant impact on asset prices than others.

Test assets were represented by the 30 companies listed at Bucharest Stock Exchange within the 1st and 2nd category. The macroeconomic factors used were the following: inflation, interest rate, unemployment rate, gold price, and price index of industrial production, average net earnings and the exchange rate. The market as a factor was also used, under the form of BET-C index.

It can be observed, for the equities under scrutiny, a positive mean excess return, and the risk of the share, in the present case, is Petrolimportexport (PEI), with a 51.52 standard deviation and a price fluctuation between 3.3500 and 198.0000 RON. Almost every equity has a positive skewness, and distribution's tail is long to the right. Also, it can be observed a very high degree of kurtosis. Bera-Jarque test shows that no equity is normally distributed, and Kolmogorov-Smirnov test showed that the amount of normally distributed equities grows to 2.

Regarding the macroeconomic factors, they have a positive mean return, and the standard deviation is relatively closed to the mean. The factors have both positive and negative skewness. As for the kurtosis, the values show a relatively normal distribution. Both Bera-Jarque test and Kolmogorov-Smirnov test shows that no factor is normally distributed.

The correlation between the macroeconomic factors was analyzed, also the correlation between the factors and the 30 shares that are listed at Bucharest Stock Exchange; it could be observed that in both cases the correlations are relatively weak and not significant.

Finally, it can be observed that the macroeconomic factors that were used influenced the price of the chosen equities and during the entire analyzed period (January 2002 – June 2010), adjusted R^2 was over 69%, and the majority of the factors provide a remarkably good description of the behavior of the cross-section of average security returns with expected returns predicted by the APT. The results also indicate that two factors do not influence: β_{SOM} (the unemployment rate) and β_{INF} (the inflation).

Compared with studied literature, inside the present study were used more factors than in the others, but the final results were similar to those analyzed according to the literature review.

The bottom-line conclusion of this study is that while security returns in Romania might be influenced by a number of macroeconomic factors, the market return remains the most dominant factor. The market factor alone appears to incorporate most of the information.

There are several suggestions for further research. First, only 30 companies were examined and not the whole market, so the results might not be robust in that sense for the whole Romanian equity market, so that the number of companies can be increased. Second, the macroeconomic variables should be lagged. Third, some other factors could also be used. For example these could be: money supply, oil price, political and legal environment.

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TECHNOLOGY AUDIT – GENERAL AND PRACTICAL LINES

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ABSTRACT. The present paper is a mixture between the theoretical notions regarding the procedure of technology audit (TA) and the experience the authors have gained from actually applying it on SMEs, so that the provided viewpoint shall be a realistic one. It starts with a general presentation of the technology audit process (TA), its main parts and subdivisions, emphasizing the role and importance of each single one. There are detailed descriptions of the benefits recurring from performing a TA, as well as the implication of the analyzed company in these activities. We have considered useful to resume the process into a graphic representation, showing the interconnection between all the parts of a TA, as well as their order. At the end, one has mentioned the action plan, the component of the TA that provides specific solutions for the deficiencies determined with the help of a SWOT analysis. Last but not least, extending the procedure to macro level, one has presented some of TAs general utilities and impacts, correlated with the cooperation with the local and central authorities.

Key words: SMEs, Tehnology Audit, SWOT, Action Plan.

JEL Classification: A12, L26, M49, L29

The actual worldwide economic context forces SMEs to adopt measures to enrich resistance to potential waves due to new arrangements of the involved actors - clients, suppliers, competitors, the state and government institutions.

Since the SMEs are the providers for two thirds of the existing working places, in Romania there is a permanent search for solutions in order to sustain them in becoming or maintaining competitive, by intensifying the contacts between Government, social partners, National Bank and other factors (innovation and technological transfer network) that can contribute for defining a coherent politic for the field.

Competitiveness is a complex concept which, at a general level, expresses the ability of persons, companies, economies, regions to maintain competition on internal and / or especially international scale, and to get economic benefits, in terms of a specific business environment, resulting in constant increases in productivity and standard of living.

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There are many factors that influence competitiveness, such as: material base, financial means, market information, skilled and competent staff, creative potential of human resources and expertise level of the company. Still, when you ask a manager about his business and the influencing factors, not many seem to realize that, somehow, not mentioning or diminishing the role of innovation, they leave out the most important instrument of development for their company.

Whether we are talking about developing new products or services or identification of the most efficient already existing methods of accomplishment, innovation brings added value to an organization. In the same time, it allows to maintain or improve their market share.

Since innovation does not have the proper quotation in the life of a potential competitive company, we have decided to emphasize its importance and the way it can be evaluated and further sustained.

In the same time, we need to correlate innovation with the other factors that have strong impact on companies' good development.

The assessment of manufacturing and service SMEs with a technology platform is accomplished through a technology audit (TA), which is in fact a method for identifying the major company requirements, needs, weaknesses and strengths on both human resources and infrastructure. At the same time, the TA is a technique, which identifies the management's view of how the company performs as well as strong indications of what the company really needs. By accomplishing a TA, one can have a real view over the external and internal environment of the company and, simultaneously, identify the human resources relation to company's performance. The main objective of TA is to provide a clear identification of company's first priority needs as well as strengths and opportunities that should be taken under consideration.

The SMEs suited for performing a TA should wish to create new products, incorporate new processes, diversify their activities and be with growth potential. Moreover, the SMEs should however have the capacity and ability to survive and innovate, and also have a strong will for international cooperation.

An SME can perform a TA in order to:

- generate income (or more income) for the technology driven organizations (e.g. technology based enterprises, research centers, institutes) from their available technology;
- improve the productivity of the technological factors;
- improve business competitiveness;
- learn how to optimize the use of current technology;
- learn about company technology options;
- check the technological status against technological criteria and to issue recommendations.

The benefits for the SME are obvious. Thus, a TA will produce an action plan that, after being applied, will generally lead to improved performance of the company. At the same time, it is important to mention that performing a TA does not necessarily imply success for the company. In fact, TA is a tool simply providing a structure within which a company is more likely to improve its potential.

There are some other assessment methods, approaching in a way to the objectives of a TA, but still different in their essences. Among them, one can mention:

- The innovation management audit. In this case, the SME auditing and analysis is performed with the aim of providing action plans concerning mainly management issues (e.g. strategic planning, HR development, marketing etc.)
- The self-evaluation audit, which is a method performed in-house, providing the SME's relevant existing mechanisms.
- The benchmarking exercise mainly consists of a thorough analysis, made on certain criteria, in order to evaluate and compare the considered SME with other leading or average companies existing in the same activity sector.
- The company visit. This is a method of getting in touch with SMEs, used mainly for identifying local RTD needs and/or offers.

Still, many of unauthorized people confuse the technology audit with the company visit. Comparing the two mentioned ones, the technology audit is far more detailed and time consuming than the company visit. In a further separate chapter, this paper will present the complex structure of a TA. Last but not least, the TA mainly aims at delivering recommendations that could benefit the client.

At the same time, a TA should not be undertaken without first completing a company visit. During the company visit, the auditor will collect the first information on the SME, pin-pointing topics for a further examination and discussion. The information related to the activities carried out in the company will show if the SME really needs a TA. As it was already mentioned, only the manufacturing and service SMEs, with a technology platform, are suitable to performing a TA. In this respect, the information collected during the company visit will give some focus to the future TA.

Structure of a Technology Audit

From the beginning, one can mention that there is not a universal, fixed structure of a TA. Still, there are some general stages, valid for each TA (Fig.1)

Pre-Audit phase

The starting point of the technology audit process is the desire of a SME to carry out a TA. In this respect, the SME manager contacts an authorized company/person for performing TAs. At this stage, after signing an agreement, the auditors designed for performing the TA start their *preparatory work*, gathering information about the SME taken from its official website, published and unpublished reports. Then, the auditors make a *company visit*, in order to have primary discussions with the manager or different representatives of its boarding staff and to explain and agree on the purpose of the audit and to select the employees to be interviewed. On the basis of this company visit, the auditors will assess the opportunity of making a TA at the involved SME – the *pre-audit assessment*.

The Technology Audit Tool

The TA itself consists of two parts: the questionnaire and the TA report. In this stage, the SME (its representatives that take part in TA) is being interviewed on the basis of a questionnaire, made by the audit company. The information gathered along the questionnaire will help the auditors to prepare the TA report.

The questionnaire generally comprises the following sections:

Organizational chart and human resources

For identifying the decision makers, the auditors ask questions about the organizational structure of the SME, viewing in this sense its organigramme.

Concerning the human resources, the asked questions focus on:

a) the staff number and its trend throughout the last years, for emphasizing the growth potential and investment in human capital (e.g. material and non-material compensations for excellence);

b) its distribution to the various (technology related) departments / compartments. The auditors will check if the SME has a separate R&D department, relevant for the innovative character of the company;

c) expertise and education. The questions should here refer to the number of superior degree employees in the activity field of the SME, the personnel structure on age levels and their expertise in the professional field. The information referring to the preoccupations of the company for improving the professional level of its employees, mainly through external or internal trainings and, at the same time, how each employee understands to enhance his/her professional knowledge.

Products and markets

The TA questionnaire should contain relevant questions concerning the developed products or product series and their share in the company's turnover, in order to examine the new product development capacity and flexibility of the audited SME.

The distribution chain, especially major clients and suppliers represent another issue that should be considered in the TA questionnaire, for assessing the vulnerability, flexibility and extroversion on the market of the company. Information concerning SMEs with similar activities existing in the region could be useful for drawing a map representing the market position/share and competitors of the company.

Production and packaging

This chapter of the TA will take into consideration the following issues existing in the company:

- Production capacity and machine idle times;
- Increase/decrease of product volume and production capacity in the last years;
- Production model used (e.g. batch, continuous flow, etc);
- Automation level (e.g. manual, semi-automatic, fully automatic);
- Standards of the equipment used (e.g. acquisition time, average renewal time, etc).

Quality control

During the TA accomplishment, the auditors will examine the certifications and audit mechanisms available in the company, for identifying its sensitivity to quality assurance and the existence of self-audit / internal audit tools and mechanisms.

One will consider again the standards of the equipments used on the technological lines, this time for assessing the importance given to the processes developed in the company and their framing into the technological and quality requirements.

This part is also important, since most of the time it represents, together with the already recognized quality of products/services, a “card” for the company, a guaranty for business excellence.

It is well known that contractors require, as a compulsory element for auctions, recognized quality certificates in the specific field.

Research and technology level

Considered as the core of the TA, the research activity carried out by a company and the level of the technology applied in the industrial processes offer a real overview upon the innovation degree of the audited company.

Analyzing the R&D infrastructure, the company management will be asked about the size of the research department (number of employees, reported to the total number of staff) and the current developed research fields and types.

In order to emphasize the importance given to research, the auditors will ask questions concerning the annual R&D expenditure, expressed as percentages of company’s turnover and the planning for future investments in R&D.

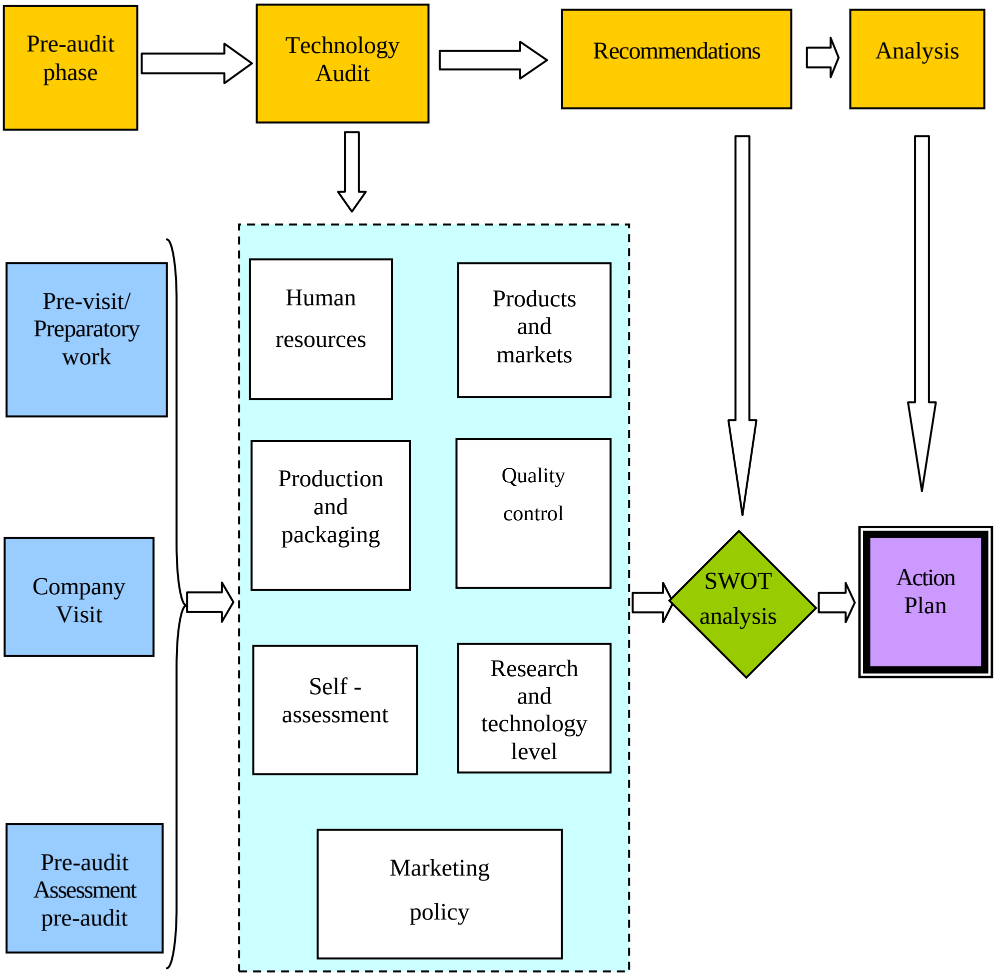

Fig.1. Structure of a Technology Audit

Of course, a company is not able to rely only on its proper research, because it is expensive and not always the results obtained are those really expected. That is why a company which has in its structure a research department should cooperate with other R&D providers, such as research institutes, universities and other SMEs that develop research activity.

Through various national and international programs, the Romanian SMEs are encouraged to participate in R&D projects, for acquiring latest professional knowledge, increasing their potential for new products and services or solving their technological problems. In this sense, information concerning the participation of the audited company in R&D projects will be helpful.

The audited technology based company has a technology portfolio, which includes innovative technologies and know-how, developed by the research department of the company.

It is very important if they are protected, using Intellectual Property Rights such as patents or trademarks (for the developed products).

One will also consider if the company has the appropriate means for transferring own technologies / technological know-how to other SMEs or for importing technologies from other entities, for covering the company's technological needs. If the answer is positive and the company has already developed technology transfers, the auditors will discuss with the company representatives about the difficulties encountered during the transfer processes.

Marketing policy

The marketing policy reflects the view of the company concerning the evolution of its activity, its guiding options, principles and norms, as well its actions for ensuring the valorification of its potential, according to the market requirements. It can be expressed through a unitary and coherent ensemble of strategies, tactics and specific action programs, which ensure both its vision for a certain period of time and the transposition into practice of its defining orientations, options and elements.

The marketing policy is a must for each company willing to promptly and realistically receive the market signals and to rapidly adapt to the changes appeared on the market. Thus, the company is able to correctly assess the market parameters and to allocate its resources according to the real requirements and, at the same time, to recourse the uncovered market segments and its advantages towards its competitors.

Through his ability, the manager of the company selects a restrained number of limited strategic possibilities, which can be delimited as function of the two dimensions of the vectorial matrix of developments, elaborated by Igor Ansoff:

- mission or markets (public or request);
- technology or product (companies or offers).

This bi-dimensional model has in view the present (actuality) and the novelty, which lead to 4 competitive alternatives or basic possibilities:

1. *market penetration* can be achieved only if encourages the clients to consume more or it will attract its potential or other's clients, due to the offered advantages, such as: price, availability, post-sale services etc.;
2. *product development* as function of the clients' preferences;
3. *market development* in the conditions in which it maintains the same technologies, will attract new clients by penetrating new spatial markets and discovering new utilities for the existing product;
4. *diversification* which resembles the bypass or innovation strategy, a high risk option.

The merit of Ansoff's matrix is to present, in a simple way, a complex process, which offers the possibility to formulate strategies, starting from the essential elements (Fig. 2).

Product \ Mission	Present (actuality)	Novelty
Present (actuality)	Market penetration	Product development
Novelty	Market development	Diversification

Fig 2. Vectorial matrix of development (Ansoff, 1968)

Nevertheless, in choosing a very efficient strategy variant, the manager should consider the difficulties determined by: change rhythm, processual tackling, market maturity, clients' technical knowledge and power, enterprise internationalization etc. and adopt a sliding strategy system in order to properly align to every single request/change of the market. This is a very useful technique that allows the company to limit the assumed or unknown risks towards the economic market process.

The auditors will take into consideration the sales and marketing procedures of the company, such as:

- Sales:
  - Type: direct, through commissioners or on-line sales type;
  - Policy: bonuses, discounts, raffles.
- Publicity: for the company or for a specific product:
  - Own website;
  - Fliers and brochures presenting the products / services / technologies of the company;
  - New products launching events;
  - Advertising in newspapers and business magazines, radio or any other media channel;
  - Participation with own stand in regional / national / international fairs;
  - Promotion of the technology portfolio in conferences and brokerage events;
  - Awareness campaigns for the activity field.

Self-assessment

At this point, the representatives of the audited company are required to complete on special assessment grids, with low- medium-high degrees, their opinion towards the company's position compared to competition, regarding the:

- adaptation to technological advancement;
- internal technology audit tools;
- use of new technologies and equipment;
- development of new (technologically) advanced products;
- access to sources of technological advancements.

SWOT analysis

After returning to their headquarters, the auditors analyze the questionnaire which was completed with the company representatives and, on the basis of the information gathered, start performing the SWOT analysis. This is a strategic planning method used to evaluate the Strengths (S), Weaknesses (W), Opportunities (O) and Threats (T) involved in a company, project or business venture. The SWOT analysis is not a permanent document, but only a snapshot of the company at the time of the analysis, for emphasizing the strong and weak points (internal origin) as well as the opportunities and threats (external origin) for the company. While the strong points and the opportunities are helpful in achieving the company's objectives, the weak points and threats are harmful (Fig. 3).

	HELPFUL ☺ to achieving the objectives	HARMFUL ☹ to achieving the objectives
INTERNAL ORIGIN (attribute of the organization)	**STRENGTHS**	**WEAKNESSES**
EXTERNAL ORIGIN (attribute of the environment)	**OPPORTUNITIES**	**THREATS**

Fig. 3. Elements of SWOT Analysis

The SWOT analysis should be completed in a bold manner, related to the competition and its 4 elements should be clearly defined, avoiding the so-called "grey-areas". Through the SWOT analysis, the company could find out where it is today and where it could be in the future.

1. Action plan

The Action Plan represents the final report of the TA, comprising the following elements:

- overview of the company and its activities;
- overview of sectors and markets;
- identification of Strengths, Weaknesses, Opportunities and Threats;
- solutions for solving the encountered problems;
- suggestions for exploiting company's strengths and opportunities.

Moreover, the Action Plan should have:

- a time frame;
- clear milestones for carrying out the proposed solutions;
- an estimated budget for carrying out the proposed solutions;
- a list of expected deliverables;
- identification of potential problem solvers.

In a few words, the Action Plan should be a concrete set of recommendations leading to the technological improvement of the company.

Expected results / benefits of a TA for the company

The expected results of a carefully conducted TA mainly concern:

- a complete and comprehensive analysis and evaluation of the requirements of the company for its sustainable growth;
- a fair and impartial SWOT analysis;
- thorough Action plan, containing a complete and comprehensive analysis and evaluation of the points where special attention or immediate action is required and how it should be performed;
- opportunity spotting for new products / new services / new technologies / new markets;
- networking with technology suppliers, technological sources, other companies;
- assessment of its technology portfolio and IPR, basis for future RTD projects;
- possible investigation and identification of potential funding mechanisms.

Time spent on a TA

As one could have already remarked, to perform a TA is resource demanding and the time spent on its different stages is approximated as it follows:

Stage	Activities	Time
Pre-audit phase	**Preparatory work** -Questionnaire making -Web research -Other sources research **Company visit and pre-audit assessment**	2 days 1 day
TA tool	Completing questionnaire concerning: **-Organigramme and human resources** **-Products and markets** **-Production and packaging** **-Quality control** **-Research and technology level** **-Marketing policy** **-Self-assessment**	1-2 days
SWOT analysis	**Identification the strengths, weaknesses, opportunities and threats for the company**	1-2 days
Action plan	**-Overview of the company and its activities;** **-Overview of sectors and markets;** **-Identification of Strengths, Weaknesses, Opportunities and Threats;** **-Solutions for solving the encountered problems;** **-Suggestions for exploiting company's Strengths and Opportunities**	2-3 days
	TOTAL TIME SPENT ON TA	**7-10 days**

Conclusions

The Technology Audit is a tool for evaluating technological status and capacity, procedures and processes applied and technological needs of a company. It requires much more detail and effort than a company visit and definitely an active engagement from the company.

The TA has four different stages, each of them with its specific importance. If any is not properly approached, the process of TA itself will be compromised.

The SWOT analysis resulting from the Technology Audit aims at creating an accurate picture of the present moment for the company, emphasizing the weaker parts, that need to be corrected, and the strong ones, that give the company the possibility to boost .

The Action Plan starts from SWOT and provides the SME, within a schedule, the necessary managerial and technical advise, in order to improve its technological level and evolve in such a way that would at least maintain its present market share if not rise it.

Extended to the level of a certain domain or region, TA is useful to establish a specific general problem. If the entitled authorities would eventually take into serious consideration these reports, at least few of the necessary solutions shall be provided, leading to economic regeneration.

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