

**Cornelia Pop**

*Faculty of Business*

*Babes-Bolyai University, Cluj-Napoca, Romania*

**UDK 336.76(498)**

*Prethodno priopćenje*

**Calin Vamos**

*'T.Popoviciu' Institute of Numerical Analysis, Romanian Academy*

**Maria Craciun**

*'T.Popoviciu' Institute of Numerical Analysis, Romanian Academy*

# **IS BUCHAREST STOCK EXCHANGE UNDER THE INFLUENCE OF THE FIVE TRADED FINANCIAL INVESTMENT COMPANIES?**

**ABSTRACT**

The present paper will try to determine if Bucharest Stock Exchange activity is under the influence of the five traded Financial Investment Companies (called also 'Societati de Investitii Financiare' or SIFs). The Financial Investment Companies were introduced at Bucharest Stock Exchange listing in November 1999 and since November 2000 they have a dedicated index, BET-Fi. The direct observations made over the listing period of above mentioned companies suggested the idea that the transactions in Financial Investment Companies might have an important impact on Romanian capital market activity. Inside the current paper, authors will analyze different series of data using regression analysis and Granger-causality tests in order to confirm or reject the hypothesis formulated in the title.

**KEY WORDS**

capital market, financial investment companies, Granger-causality, regression

## 1. Introduction

SIFs is the abbreviation for the Romanian name 'Societati de Investitii Financiare' of the five Romanian Financial Investment Companies. Their existence started in November 1, 1996 when the Law no. 133/ 1996 was issued and decided the transformation of the former five Private Property Funds in SIFs<sup>1</sup>.

The creation of SIFs also generated the incorporation of these new five investment companies. Due to the fact that they became public limited companies which have under their management portfolios of assets (mainly Romanian shares), SIFs can be considered closed-end funds – sub-type: equity fund. The current Romanian regulations<sup>2</sup> consider them as being 'other undertakings for collective investment in transferable securities' (in Romanian 'alter organism de placement collective') while the term closed-end funds is seldomly used in Romania.

Their presence as listed companies at Bucharest Stock Exchange (BVB<sup>3</sup> from now on) started in November 1, 1999 and since then SIFs got a special position on the BVB main market, concentrating investors' attention. The paper will present further the SIFs peculiar position at BVB and will try to determine if they have an influence on BVB as a whole.

## 2. Review of literature

1 The 5 Private Property Funds (PPFs) were created by and functioned under the Law no. 58/ 1991. They were part of the privatization process in Romania. According to the Law no. 58/ 1991, to each of the 5 PPFs a number of Romanian companies were allocated. The PPFs were allowed to own maximum 30% of the allocated companies' shares. The 5 PPFs were formed based on the regional concentration of allocated companies. Until October 1996, there were: PPF1 Banat-Crisana, PPF2 Moldova, PPF3 Transilvania, PPF4 Muntenia and PPF5 Oltenia. In November 1996, the PPFs were transformed as follow:  
PPF1 became SIF1 Banat-Crisana  
PPF2 became SIF2 Moldova  
PPF3 became SIF3 Transilvania  
PPF4 became SIF4 Muntenia  
PPF5 became SIF5 Oltenia.

2 As the Law no. 297/ 2004 and the Regulation no. 15/ 2004, issued by Romanian National Securities Commission, present SIFs.

3 BVB is the abbreviation for Bursa de Valori Bucuresti (Bucharest Stock Exchange) and was chosen for use in order to avoid any confusion with Budapest Stock Exchange or Bulgarian Stock Exchange.

The international literature regarding closed-end funds is concentrated mostly around their puzzled anomaly: the closed-end fund discount.

A large number of scientific papers discuss the causes and the factors responsible for the closed-end fund discounts/ premia; among them Rozeff [1991], Gemmill and Thomas [2000 and 2004], Cherkes [2001 and 2003], Wang [2003], Bleaney and Smith [2003 and 2008], Berk and Stanton [2004 and 2007], Malkiel and Xu [2005], Brenan and Jain [2007], Wermers et al. [2007], Chang et.al [2008], Manzler and Slezak [2008].

All the studies mentioned above analyse closed-end funds traded on United States, United Kingdom and, recently, Mainland China stock exchanges.

Another, however smaller, category of studies try to explain the role of market sentiment in relation with the closed-end fund discounts/ premia: Brauer [1993], Bodurtha et.al [1993], Gemmill and Thomas [2000], Doukas and Milonas [2004].

Other studies are concentrated on the analysis of closed-end fund discounts behavior, closed-end fund share prices and returns behaviour De Long and Shleifer [1990], Weiss et al. [1995], Spiegel [1999], Kellerhals and Schoebel [2000], Fuertes and Thomas [2004], Flynn [2006], Lee et al. [2005], Cherkes et al. [2006], Branch et al. [2007].

The above mentioned issues regarding closed-end funds are under scrutiny when considering only emerging markets closed-end funds or single country closed-end funds, also traded mainly in the United States and the United Kingdom: Bekaert et al. [1995], Kramer and Smith [1995], Levy-Yeyati and Ubide [2000], Jain et al. [2004], Chan et al. [2005], Nishiotis and Markis [2006], Ismailescu [2007].

Only one paper of the reviewed literature, Jindrichkoska and Rhys [2000], discuss the role of closed-end funds (of a peculiar form) in Czech Republic privatization process.

We could not find other studies on closed-end funds traded on a small emerging market – like the case of Romania – which manage mostly domestic assets and having an influence that can be considered important on the stock market evolution.

While in the printed media articles about SIFs could be found frequently, Romanian academic

literature contain only several papers (only 3 could be identified) investigating SIFs in details. The paper wrote by Dima et al. [2002] deals with informational asymmetry of SIFs quotas - an empirical approach, and concluded that the evolution of SIFs quotas is subject of an important asymmetry induced by the impact of changes in the information provided on the financial market by different operators, asymmetry which leads to a substantial volatility of current and expected level of quotas. The paper wrote by Pop et al. [2005] investigated several aspects of SIFs evolution in Romania and one interesting conclusion was the fact that the SIFs contribution to BVB development was important (for the period under analysis); their listing at BVB triggered a bigger interest for the Romanian main stock exchange. This conclusion could be maintained even if the Granger test (performed on the series of data until July 2005) was not conclusive.

The paper wrote by Paun [2006] is available only in Romanian and deals with measurement of SIFs performances using Morningstar model. While the model generated good results when only one SIF was selected, it did not answer the question regarding multiple choices among SIFs.

The present paper continues the investigation started by Pop et al. [2005] and developed by Pop et al. [2009].

### 3. SIFs Evolution

Since the beginning of their existence, SIFs situation was peculiar [Apostu, 1998]:

- » *they inherited the portfolios owned by the former PPFs which had no possibility to choose the companies they owned; their portfolio structure was heavily influenced by the Romanian complicated privatization process; in November 1996, the SIFs' portfolio structure was still under discussion and negotiation with the State Ownership Fund;*
- » *they had a large number of shareholders (over 5 million each) and two 'sources' for these shareholders: those who subscribed since the beginning at PPFs and those added (some of them during 1997 and others in 1998) as a result of countless alterations to the laws and regulations concerning the Romanian privatization process. Many of these investors didn't*

*even know they were SIFs shareholders. There were also many changes in the investors' data (e.g. changes of names and addresses, deaths etc.) which were not tracked.*

During 1997 and 1998, the SIFs administrators had the difficult tasks to identify all their shareholders and to solve the situation of their portfolios (which included hundreds of privatized companies)<sup>4</sup>.

It was stated that the complexity of SIFs needed a special regulation, but until 2004 no distinct regulation was issued for SIFs, while different laws and regulations issued by the Romanian National Securities Commission dedicated special chapters to SIFs. At the present moment the Law 297/ 2004, which also has a special section dedicated to SIFs, was modified by the Law 208/ 2005, by the Government Ordinance no. 41/ 2005 and by the Law 97/ 2006. The last two regulations were focused mainly on the maximum number of shares that can be owned at SIFs by anyone established at 1% of the total issued shares which became effective since November 2006<sup>5</sup>.

Due to the important number of shareholders, there was a constant pressure for SIFs to be listed at BVB. SIFs listing at BVB first tier<sup>6</sup> started November 1<sup>st</sup> 1999 - 3 years to the date they were created.

### 4. SIFs Position at BVB

Despite the limit imposed for shares ownership and their blurry image created by the lack of clear regulations and transparency, SIFs were considered interesting investment alternatives by an important number of investors. SIFs position and importance at BVB are reflected by the figures presented in tables 1, 2 and 3.

4 The process of compensating the SIFs' portfolios took place in 1997 and 1998. Only at the beginning of 1999, through a Government Emergency Ordinance no.54/ 1998, the situation of SIFs portfolios was clarified.

5 Previously the maximum number of shares that could be owned at a SIF by a person was 0.1%. Since June 2009 new discussion arises in order to increase the level for the maximum number of shares allowed to be owned in SIFs to 10%. During February 2010 the proposal was discussed in several Government Commissions; the decision was postponed in order to assess its implications.

6 First tier is the official name BVB used to designate its first category, where the best Romanian companies are listed.

**TABLE 1: SIFs' CAPITALIZATION AS OF DECEMBER (MILLION EUR) AND % OF BVB'S CAPITALIZATION**

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>SIFs' Capitalization (mil.EUR)</b>	65.9	68.1	125.5	236.9	268.1	612.7	1783.4	2524.8	3076.9	436.5	776.7
<b>% of BVB Capitalization</b>	17.41	14.18	9.22	8.95	8.96	6.96	11.65	11.79	12.51	3.75	4.08

Source: BVB data, www.bvb.ro

The importance of SIFs in BVB's capitalization was diminished only during 2004, when the BVB as a whole registered an important growth – triggered by the interest of, mainly, foreign investors/ foreign investment funds for a country expected to become in a near future an European Union member. The second – and very sharp decrease – was registered in 2008, when the financial crisis had a severe influence on SIFs. The year 2009 is still under the

total traded value - and even more important inside the 1<sup>st</sup> category – where SIFs concentrate around 62% of total trades and 48% of total value. When the average figures per day are analyzed, SIFs trades are at 56% of BVB's total number of trades/ day and around 46% of daily transaction value at BVB.

**TABLE 2: SIFs' POSITION IN TOTAL BVB AND 1<sup>st</sup> CATEGORY TRANSACTIONS (AVERAGE FIGURES FOR NOV.1999-DEC.2009)**

	% of total BVB	% of 1st category
<b>Number of trades</b>	49.66%	62.13%
<b>Volume</b>	29.17%	44.91%
<b>Value</b>	40.14%	48.48%

Source: own calculations based on BVB data

**TABLE 3: SIFs DAILY ACTIVITY COMPARED WITH BVB (NOV.1999-DEC.2009)**

	BVB total	SIFs
<b>Average number of trades per day</b>	49.66%	62.13%
<b>Average volume per day (mil. shares)</b>	29.17%	44.91%
<b>Average value per day (mil. EUR)</b>	40.14%	48.48%

Source: own calculations based on BVB data

influence of the financial crisis. SIFs' introduction at BVB quote for transactions had an important impact on the Romanian stock exchange activity in 1999 and 2000 and also in 2005, 2006 and 2007, when SIFs represented over 10% of total capitalization.

SIFs transactions have an important position inside BVB equity market – representing almost 50% of total number of trades and around 40% of

### 5. SIFs Price/ Earnings Ratio (PER) and Dividend yield (DIVY) compared with BVB as a whole

The following tables will present the evolution of PER and DIVY for the five SIFs and for BVB.

significantly during the years (table 5). The DIVY level for 2008 is generated by the price decrease under the influence of the financial crisis. The level of 2009 went back to the level of 2005 due to increase in SIFs prices. However, SIFs reputation – gained between 2000 and 2003 – as consistent dividend

**TABLE 4: PER<sup>7</sup> for BVB and SIFs (AS OF DECEMBER OF EVERY YEAR)**

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>BVB</b>	<b>8.8</b>	<b>3.9</b>	<b>4.9</b>	<b>9.1</b>	<b>13.1</b>	<b>35.2</b>	<b>24.1</b>	<b>18.0</b>	<b>19.2</b>	<b>4.1</b>	<b>14.4</b>
<b>SIF1</b>	2.2	3.3	3.5	6.8	7.9	13.2	33.4	20.4	27.6	2.3	5.2
<b>SIF2</b>	1.9	3.4	4.5	4.6	6.8	9.6	25.5	47.4	28.0	3.3	4.7
<b>SIF3</b>	3.2	2.9	4.8	8.3	9.8	16.1	14.9	30.4	24.2	3.8	5.1
<b>SIF4</b>	2.9	2.6	4.1	8.8	8.7	12.5	32.2	16.9	35.8	3.7	9.8
<b>SIF5</b>	2.2	3.2	4.0	6.3	6.9	17.5	21.5	21.5	27.0	4.2	3.6

Source: BVB monthly reports

As it can be observed in Table 4, in 2005 and 2006 SIFs reached their pick from PER point of view, while the financial crisis brought them at the level of 2000-2002.

payers - can be considered one of the factors that maintained investors' interest at important level.

**TABLE 5: DIVY<sup>8</sup> (%) at BVB level and SIFs (AS OF DECEMBER OF EVERY YEAR)**

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>BVB</b>	<b>7.84</b>	<b>7.48</b>	<b>6.70</b>	<b>4.97</b>	<b>2.00</b>	<b>1.45</b>	<b>0.94</b>	<b>1.72</b>	<b>2.18</b>	<b>8.57</b>	<b>2.81</b>
<b>SIF1</b>	n/a	20.97	19.05	10.82	9.30	5.78	2.04	1.53	1.69	12.84	2.65
<b>SIF2</b>	n/a	25.81	19.46	12.94	14.10	6.81	2.67	2.05	1.81	9.43	3.95
<b>SIF3</b>	n/a	22.15	17.39	9.14	8.68	4.04	3.10	1.68	0	13.79	4.41
<b>SIF4</b>	n/a	35.90	17.89	10.68	10.67	7.26	2.92	1.03	2.90	11.20	5.63
<b>SIF5</b>	n/a	17.86	18.10	11.76	10.00	4.25	2.53	1.70	1.61	13.33	4.72

Source: BVB monthly reports

For 2000 and 2001, DIVY for SIFs was exceptional due to the low level of market prices and a relative high level of dividend, transforming SIFs in investments that paid regular and consistent dividends. The level of dividend/ share did not change

### 6. Performances registered by SIFs

In table 6 SIFs performances are measured against the inflation rate, against the average interest rate for bank deposits and also against the oldest BVB index – BET (Bucharest Exchange Trading) – calculated since September 1997. It can be considered a blue chip index since it includes in its portfolio the best 10 listed companies, most of them traded inside the 1st category. BET portfolio does not

7 For the calculations above it was used the price of the last trade recorded in the Regular market segment. The net income used to calculate PER is as the last 4 quarters.

8 For the calculations above it was used the price of the last trade recorded in the Regular market segment. The net income used to calculate DIVY is as the last 4 quarters.

include any SIFs. Due to the fact that its portfolio structure includes companies that concentrate the 10 most liquid companies at BVB, and its portfolio structure influences the index BET-C(omposite)<sup>9</sup>, for the present paper, BVB is considered to be represented by the BET index.

For SIFs, a sector index, BET-Fi, was introduced since November 1<sup>st</sup> 2000 (a year after SIFs start trading). Its portfolio consists only of SIFs and their importance inside the index is approximate the same, of 20%.

In the table below, the DIVY was ignored, since BET and BET-Fi do not include the dividends in

the BVB as a whole. From the table 6 above it can be deduced that BET-Fi either anticipated or evolved in correlation with BVB. When annual returns generated by SIFs are under scrutiny, they show important growth in share prices between 2000 and 2006. However 2006 shows relative modest results compared with precedent years – mainly due to a lot of media news concerning the 1% limit regarding SIFs share ownership and the way this limit was to be applied.

During 2007 – influenced by the information on the problems regarding sub-prime lending and real estate market decline in the USA – SIFs results

**TABLE 6: BVB EQUITY MARKET PERFORMANCES**

	<i>Inflation rate (%)</i>	<i>Average interest rate for bank deposits (%)</i>	<i>BET annual return (%)</i>	<i>BET-Fi annual return (%)</i>	<i>SIF1 annual return (%)</i>	<i>SIF2 annual return (%)</i>	<i>SIF3 annual return (%)</i>	<i>SIF4 annual return (%)</i>	<i>SIF5 annual return (%)</i>
<b>1999</b>	45.8	45.40	15.21	n/a	n/a	n/a	n/a	n/a	n/a
<b>2000</b>	45.7	32.44	18.25	n/a	57.11	48.83	20.00	-7.27	34.94
<b>2001</b>	34.5	26.16	35.71	109.92	90.91	133.33	100.00	132.08	107.14
<b>2002</b>	22.5	18.39	117.52	113.14	129.32	114.29	107.14	108.66	105.65
<b>2003</b>	15.3	10.78	27.13	24.72	32.31	10.91	40.32	26.79	9.09
<b>2004</b>	11.9	11.34	93.15	106.94	84.44	137.71	139.08	58.90	176.19
<b>2005</b>	9.00	8.34	42.47	151.32	173.74	183.02	82.61	169.29	169.11
<b>2006</b>	6.56	6.51	18.09	24.66	29.90	37.98	33.04	1.66	28.83
<b>2007</b>	4.84	6.70	16.29	14.95	0	-1.14	-29.70	21.72	13.16
<b>2008</b>	7.85	9.55	-69.68	-83.62	-84.20	-84.18	-88.07	-73.29	-86.20
<b>2009</b>	5.59	11.89	57.20	83.33	94.83	107.27	135.29	13.60	106.50

Source: BVB data and Romanian National Bank data

their calculations. The rates of returns are based on closing figures for indexes and closing prices for SIFs.

When analyzing the performance of SIFs they generated important returns – above the inflation rate and bank deposits interest rates – between 2001 and 2007. But, as expected, the market decline from 2008 had a higher impact on SIFs due to their increased level of volatility (see table 7) compared to

are mixed. The sharp decrease in SIFs performances during 2008 was generated by the influence of the international financial crisis. However, 4 of SIFs recuperated all the sharp decrease of the 2008 during 2009.

As the data presented above show, SIFs position inside BVB, mainly inside its 1st category, is a strong one and support mainly media news general opinion which considered SIFs as ‘a motor that stimulated BVB’s transactions.’

<sup>9</sup> For details regarding BET and BET-C portfolio, the following link can be used: <http://www.bvb.ro/IndicesAndIndicators/indices.aspx?t=0&m=BSE&i=bet&o=&d=4/10/2009>

## 7. Do SIFs Influence BVB?

To answer this question only BET – the oldest and most watched index at BVB – was chosen. Another reason for concentrating the analysis on BET was the fact that 3 the companies which have a weight of over 10% in BET portfolio, also dominate BET-C index.

Table 7 presents the descriptive statistics for BET and BET-Fi daily returns and for SIFs daily returns. It must be mentioned that further analysis were made only over the 2270 observations when the series of data were available for both indexes, covering the period between November 2000 and December 2008. The kurtosis on both indexes is bigger than 3, indicating important fat tails which are common inside return series for market indexes. The skewness indicates relative symmetrical distributions around the mean.

Accordingly with the performances presented in tables 6, BET-Fi presents a higher average daily return and the risk associated with its portfolio of SIFs is higher than the risk of BET portfolio.

Note: SIFs were observed for a longer period, of 1 year, since November 1999, while BET-Fi and BET were taken into consideration only since November 2000.

When the simple correlation results between daily indexes returns is observed (table 8), they show an important level of correlation for the entire period under scrutiny (Nov. 2000 – Dec. 2009), with mixed results between 2001 and 2004 and an important level of correlation between 2005 and 2009, the highest correlation being reached during the turbulences of 2008.

For further analysis a simple regression was used, with BET as the dependent variable and BET-Fi as independent variable, with the general equation:

$$BET = a + b * BET-Fi$$

Using the regression with daily returns of BET as dependent variable, P-value is less than 0.01 confirming that there is a statistically significant relationship between BET and BET-Fi at a confidence level of 99%. R-squared explains 41.794% of the variability in BET daily returns.

When the regression was applied for two sub periods: Nov. 2000 – Dec. 2004, respectively Jan. 2005 - Dec. 2009, for the first period – in concordance with the mixed results generated by the simple correlation – R-squared explains 12.641% of BET variability, while for the second period R-squared explains 94.149% of BET variability.

TABLE 7: DESCRIPTIVE STATISTICS FOR BET AND BET-Fi DAILY RETURNS

	BET	BET-Fi	SIF1	SIF2	SIF3	SIF4	SIF5
<b>Number of data</b>	2270	2270	2522	2522	2522	2522	2522
<b>Mean</b>	0.113	0.177	0.203	0.220	0.181	0.170	0.202
<b>Standard deviation</b>	1.811	2.739	3.467	3.708	3.647	3.467	3.512
<b>Kurtosis</b>	7.014	4.625	25.769	20.283	38.604	30.652	24.242
<b>Skewness</b>	-0.067	0.222	1.596	1.140	0.391	1.720	1.474
<b>Largest (1) (%)</b>	15.692	14.624	52.941	52.284	54.667	55.405	52.688
<b>Smallest (1) (%)</b>	-12.293	-14.850	-15.000	-24.000	-49.885	-20.430	-22.535

Source: based on BVB data

**TABLE 8: CORRELATION BETWEEN BET AND BET-Fi BASED ON DAILY RETURNS**

<i>Entire period</i>	2001	2002	2003	2004	2005	2006	2007	2008	2009
0.647	0.291	0.406	0.559	0.240	0.653	0.591	0.690	0.875	0.768

Source: based on BVB data

From these results only, it can be concluded that BET variability was influenced by BET-Fi, mainly between 2005 and 2009.

A Granger-causality test was also performed in order to determine if BET-Fi can be considered a market index leader for BVB, represented by BET index. The test used the returns of the two indexes calculated for intervals of 10 days, 22 days (about 1 month trading period), 44 days (about 2 months) and 66 days (about 3 months) between Nov. 2000 and Dec. 2008 and between Nov. 2000 and Dec. 2009.

A more complex analysis was performed by Canegrati [2008] in its paper "In Search of Market Index Leaders: Evidence from World Financial Markets". The above mentioned research generated the idea to perform a similar test on Romanian capital market, BVB.

The following tables present the marginal probabilities that the variables on the rows are not 'Granger causal influenced' by the variables on columns calculated with the help of an F-test for the coefficients of VAR (Vector Autoregression Model). We have used the MATLAB programs described by LeSage [1999], chap. 5. When the marginal proba-

**TABLE 9: VARIATION INTERVAL FOR 10 DAYS – GRANGER CAUSALITY PROBABILITIES**

	<i>BET</i>	<i>BET-Fi – until Dec.2008</i>	<i>BET-Fi – until Dec.2009</i>
<i>BET</i>	0.00	0.01	NaN
<i>BET-Fi</i>	NaN	0.00	0.00

**TABLE 10: VARIATION INTERVAL FOR 22 DAYS – GRANGER CAUSALITY PROBABILITIES**

	<i>BET</i>	<i>BET-Fi – until Dec.2008</i>	<i>BET-Fi – until Dec.2009</i>
<i>BET</i>	0.00	0.04	0.10
<i>BET-Fi</i>	NaN	0.00	0.00

**TABLE 11: VARIATION INTERVAL FOR 44 DAYS – GRANGER CAUSALITY PROBABILITIES**

	<i>BET</i>	<i>BET-Fi – until Dec.2008</i>	<i>BET-Fi – until Dec.2009</i>
<i>BET</i>	0.00	0.00	0.01
<i>BET-Fi</i>	NaN	0.00	0.00

**TABLE 12: VARIATION INTERVAL FOR 66 DAYS – GRANGER CAUSALITY PROBABILITIES**

	<i>BET</i>	<i>BET-Fi – until Dec.2008</i>	<i>BET-Fi – until Dec.2009</i>
<i>BET</i>	0.00	0.04	0.08
<i>BET-Fi</i>	NaN	0.00	0.00



bilities are greater than 0.1, they are suppressed and NaN (no Granger causality exists) appears in the tables. Hence the inferences are drawn on the basis of a 90% confidence level.

As the data from the tables 9 to 12 show, the BET-Fi returns Granger-cause BET returns – with probabilities ranging between 96% and 100% (for 44 days) for the period Nov. 2000 to Dec. 2008 and with probabilities ranging between 92% and 96% for the period Nov. 2000 to Dec. 2009, while BET returns do not Granger-cause BET-Fi returns.

The results of these tests confirm the hypothesis that BET-Fi can be considered a BVB index leader and it is consistent with the data generated by the regression test and with the data presented in the first part of this paper which showed the importance of SIFs inside BVB.

## 8. Conclusions

BVB (Bucharest Stock Exchange) can be considered a small emerging market. After a weak and unconvincing evolution between November 1995 (when BVB opened for transactions) and October 1999 – due to the inherent beginning and to the indirect influences of 1997 Asian crisis and 1998 Russian crisis – BVB attractiveness grew, first for domestic investors, since SIFs start trading in November 1999 and later for foreign investors.

The importance of SIFs in BVB's activity is highlighted through tables 1, 2 and 3. SIFs represent – in average – 9.95% of BVB capitalization between the end of 1999 and the end of 2009. Also SIFs concentrated – in average, for the same period – around 50% of BVB trades, around 29% of BVB volume and around 40% of BVB trading value.

The attractiveness of SIFs for investors is presented in tables 4 and 5. With PERs under BVB level, DIVY above market level and returns that overpassed or almost equal with BVB returns, SIFs were constantly watched by investors.

Due to this important position SIFs gained inside BVB tradings, it was only natural to ask if they have an influence over BVB evolution.

In the last section of the current paper we showed through combined correlation, regression

and Granger-causality analysis the fact that BET-Fi might have a direct influence on BVB represented by BET index. This conclusion is supported also by the results of the simple correlation, presented above.

Due to the fact that BET-Fi portfolio is formed by SIFs only, those companies have a combined influence on BET.

To this conclusion it must be added the following observation: during the last 2-3 years, SIFs had only minority ownership in 1 to maximum 3 companies included in BET index portfolio.

Further and more detailed analysis is needed for a better highlight of this influence and to show which of the SIFs might be considered the market leader, with the highest influence on BVB's activity.

## LITERATURA

1. Apostu, Mioara, 1998, SIF'98: o cotare imposibila (1), Piata Financiara nr.6/ iunie 1998
2. Bekaert, G., Urias, M.S., 1995, Diversification, Integration and Emerging Market Closed-End Funds, National Bureau of Economic Research, Working Paper No. 4990, <http://ideas.repec.org/a/bla/jfinan/v5y1996i3p835-69.html>
3. Berk, J.B., Stanton, R., 2004, A Rational Model of the Closed-End Fund Discount, Hass School of Business, <http://ideas.repec.org/p/nbr/nbenwo/10412.html>
4. Berk, J.B., Stanton, R., 2007, Managerial Ability, Compensation and the Closed-End Fund Discount, *The Journal of Finance*, Vol. LXII no.2, April 2007, pp.529-556
5. Bleaney, M., Smith, R.T., 2003, Prior Performance and Closed-End Fund Discounts, University of Nottingham Economics Discussions Paper no.03/16, [www.nottingham.ac.uk/economics/research/dp/school\\_dp/DP.03.16.pdf](http://www.nottingham.ac.uk/economics/research/dp/school_dp/DP.03.16.pdf)
6. Bleaney, M., Smith, R.T., 2008, Risk, Managerial Skills and Closed-End Fund Discounts, University of Nottingham, Discussion Papers in Economics, Paper no. 08/10, [www.nottingham.ac.uk/economics/research/dp/school\\_dp/dp.08.10.pdf](http://www.nottingham.ac.uk/economics/research/dp/school_dp/dp.08.10.pdf)
7. Bodurthta, J.N., Kim, D-S., Lee, C.M.C., 1993, Closed-End Country Funds and U.S. Market Sentiment, *Review of Financial Studies* 8, pp.879-918
8. Branch, B., Ma, A., Sawyer, J., 2007, Closed-End Fund Performance on a Daily Basis: The Discovery of a New Anomaly, <http://www.fma.org/Orlando/Papers/CLOSEDENDFUN-DPERFORMANCEONADAILYBASISnJan07.pdf>
9. Brauer, G.A., 1993, 'Investor Sentiment' and the Closed-End Fund Puzzle: A 7 Percent Solution, *Journal of Financial Service Research*, 1993, pag.199-216
10. Brennan, M.J., Jain, R., 2008, Capital Gains Taxes, Agency Costs, and Closed-End Fund Discounts, EFA 2008 Athens Meetings Paper, <http://ssrn.com/abstract=1020210>
11. Canegrati, E., 2008, In Search of Market Index Leader: Evidence from World Financial Markets, Online at <http://mpra.ub.uni-muenchen.de/11292/MPPA> Paper No. 11292, posted 29. October 2008 / 11:39
12. Chan, J., Ravi, J., Xia, Y., 2005, Market Segmentation, Liquidity Spillover, and Closed-End Country Fund Discount, [www.isb.edu/caf/htmls/YihongXia.pdf](http://www.isb.edu/caf/htmls/YihongXia.pdf)
13. Chang, K., Kot, H.W., Li, D., 2008, Portfolio Concentration and Closed-End Fund Discounts: Evidence from the China Market, *Emerging Markets Review*, 2008, doi: 10.1016/j.emeremar.2008.02.003
14. Cherkes, M., 2001, The Closed-End Funds: A Misunderstood Asset, Columbia University, <http://ssrn.com/abstract=687821>
15. Cherkes, M., 2003, A Positive Theory of Closed-End Funds as an Investment Vehicle, [www.princeton.edu/~bcf/cherkes.pdf](http://www.princeton.edu/~bcf/cherkes.pdf)
16. Cherkes, M., Sagi, J., Stanton, R., 2006, A Liquidity-Based Theory of Closed-End Funds, [www2.owen.vanderbilt.edu/jacob.sagi/cefFinal.pdf](http://www2.owen.vanderbilt.edu/jacob.sagi/cefFinal.pdf)
17. De Long, J.B., Shleifer, A., *The Bubble of 1929: Evidence from Closed-End Funds*, 1990, National Bureau of Economic Research, Working Paper No. 3523, [http://econ161.berkeley.edu/pdf\\_files/Bubble\\_1929.pdf](http://econ161.berkeley.edu/pdf_files/Bubble_1929.pdf)
18. Dima, B., Pirtea, M., Murgea, A., 2004, INFORMATIONAL ASYMMETRY OF SIF'S QUOTAS. AN EMPIRICAL APPROACH, *The 2nd International Symposium 'Economies and Management of Transition'*, Timişoara, 7-8 mai 2004, Ed.Mirton, ISBN 973-661-333-x
19. Doukas, J.A., Milonas, N.T., 2004, Investor Sentiment and the Closed-End Fund Puzzle: Out-of-sample Evidence, *European Financial Management*, vol.10, no.2, 2004, pag.235-266
20. Flynn, S.M., 2006, Arbitrage in Closed-End Funds: New Evidence, <http://irving.vassar.edu/VCEWP/VCEWP57.pdf>
21. Fuertes, A-M., Thomas, D.C., 2004, Market-Wide Shocks and Anomalous Price Behavior: Evidence from Closed-End Funds, <http://www.cass.city.ac.uk/conferences/mmf2004/files/Fuertes@Thomas.pdf>
22. Gemmill, G., Thomas, D.C., 2000, Sentiment, Expenses and Arbitrage in Explaining the Discount on Closed-End Funds, Cass Business School Research Paper, <http://ssrn.com/abstract=222448>
23. Gemmill, G., Thomas, D.C., 2004, The Impact of Corporate Governance on Closed-End Funds, [http://www.efmaefm.org/efmsympo2005/accepted\\_papers/Gordon\\_Gemmill\\_paper.pdf](http://www.efmaefm.org/efmsympo2005/accepted_papers/Gordon_Gemmill_paper.pdf)
24. Ismailescu, I., 2007, Emerging-Market Closed-End Funds: Managerial Performance and Other Factors Affecting Fund Premiums, [www.fma.org/Texas/Papers/Emerging-Market\\_Closed-End\\_Funds\\_luliana\\_Ismailescu\\_FMA2008.pdf](http://www.fma.org/Texas/Papers/Emerging-Market_Closed-End_Funds_luliana_Ismailescu_FMA2008.pdf)
25. Jain, R., Xia, Y., Wu, M.Q., 2004, Illiquidity and Closed-End Country Fund Discounts, <http://finance.wharton.upenn.edu/weiss/wpapers/04-3.pdf>
26. Jindrichovska, I., Rhys, H., 2000, Opening-up of Investment Funds: The Case of the Czech Republic, The University of Wales, School of Management and Business, Research Paper 2000-12, [http://www.aber.ac.uk/smba/en/Research/research\\_papers/2000/rp2000-12.pdf](http://www.aber.ac.uk/smba/en/Research/research_papers/2000/rp2000-12.pdf)
27. Kellerhals, B.P., Schoebel, R., 2000, The Dynamic Behavior of Closed-End Funds and Its Implications for Pricing, Forecasting and Trading, Tuebinger Discussion Paper No.189, <http://ssrn.com/abstract=239290>
28. Kramer, C., Smith, R.T., 1995, Recent Turmoil in Emerging Markets and the Behavior of Country-Fund Discounts: Renewing the Puzzle of the Pricing of Closed-End Mutual Funds, IMF Working Paper No. 95/68, [www.imf.org](http://www.imf.org)
29. Lee, C-F., Patro, D.K., Liu, B., 2005, Functional Forms, Market Segmentation Pricing of Close-End Country Funds, [www.centerforpbefr.rutgers.edu/Jan11-2008%20papers/7-3.doc](http://www.centerforpbefr.rutgers.edu/Jan11-2008%20papers/7-3.doc)
30. LeSage, J. P., 1999, Applied Econometrics using MATLAB, <http://www.spatial-econometrics.com/html/mbook.pdf>
31. Levy-Yeyati, E., Ubide, A., 2000, Crises, Contagion and the Closed-End Country Fund Puzzle, IMF Staff Papers, vol.47, no.1, 2000, International Monetary Fund, <http://www.imf.org/external/pubs/cat/longres.cfm?sk=2762.0>

33. Malkiel, B.G., Xu, Y., 2005, *The Persistence and Predictability of Closed-End Fund Discounts*, <http://www-stat.wharton.upenn.edu/~steele/Courses/956/Resource/CEF/MalkielXu.pdf>
34. Manzler, D.L., Slezak, S.L., 2008, *The Closed-End Fund Premium Puzzle and Portfolio/ Fund Risk Differences*, Working Paper Series, <http://ssrn.com/abstract=1108489>
35. Nishiotis, G., Markis, A.K., 2006, *The Forecasting Power of Emerging Market Closed-End Fund Discounts and Capital Market Segmentation*, University of Cyprus, Working Paper Series, <http://ssrn.com/abstract=883632>
36. Paun, C., 2006, *Modelul Morningstar de evaluare a performantei portofoliilor financiare. Testarea modelului pe SIF-uri*, Jurnalul economic, June 2006, pp.70-77
37. Pop, C., Calugaru, Adina, Balgaradean, Mihaela, 2005, *Romanian Closed-end Funds – An Overview*, Studia Negotia nr.2/ 2005, pp.107-134
38. Pop, C., Vamos, C., Craciun, M., Curutiu, C., 2009, *Is Bucharest Stock Exchange Influenced by the Five Traded Financial Investment Companies*, in *Proceedings of the IASK International Conference Global Management*, Pedro Soto Acosta (ed), ISBN 978-989-95806-9-5, Seville, Spain, 22-24 June, IASK
39. Rozeff, M. S., 1991, *Closed-End Fund Discounts and Premiums*, Pacific-Basin Capital Market Research, vol.2, 1991
40. Spiegel, M., 1999, *Closed-End Fund Discounts in a Rational Agent Economy*, <http://ideas.repec.org/p/wpa/wuwpfi/9712002.html>
41. Wang, Z.J., 2003, *Dividend Commitment and Discount Management: The Distribution Policy of Closed-End Funds*, (Job Market Paper), <http://home.business.ku.edu/finance/doc/JobMarketPaper-Wang.pdf>
42. Weiss Hanley, K., Lee, C.M.C., Seguin, P.J., 1994, *The Marketing of Closed-End Fund IPOs: Evidence From Transactions Data*, The Warton Financial Institutions Center, Working Paper 94-21, <http://fic.wharton.upenn.edu/fic/papers/94/9421.pdf>
43. Wermers, R., Wu, Y., Zechner, J., 2007, *Portfolio Performance, Discount Dynamics, and the Turnover of Closed-End Fund Managers*, <http://www.bus.wisc.edu/finance/workshops/documents/Youchang-Wu101207.pdf>

#### **Cornelia Pop**

Ekonomski fakultet, Sveučilište Babes-Bolyai, Rumunjska

#### **Calin Vamos**

'T. Popoviciu' Institut za numeričku analizu, Rumunjska Akademija

#### **Maria Craciun**

'T. Popoviciu' Institut za numeričku analizu, Rumunjska Akademija

## **JE LI BURZA U BUKUREŠTU POD UTJECAJEM PET FINANCIJSKIH INVESTICIJSKIH TVRTKI KOJE KOTIRAJU NA BURZI?**

### **SAŽETAK**

Cilj ovoga rada je odrediti je li djelovanje burze u Bukureštu pod utjecajem pet financijskih investicijskih tvrtki (naziv im je 'Societati de Investitii Financiare' ili SIF-ovi) čijim se dionicama na ovoj burzi trguje. Te su tvrtke uvedene u kotaciju burze u Bukureštu u studenom 1999. godine, a od studenoga 2000. imaju I svoj indeks, BET-Fi. Izravna promatranja u razdoblju kotacije spomenutih tvrtki ukazuju na to da bi transakcije u financijskim investicijskim tvrtkama mogle imati značajan utjecaj na rumunjsko tržište kapitala, odnosno, njegove aktivnosti. U radu se analiziraju različite serije podataka pomoću regresijske analize, te Grangerov test kauzalnosti kako bi se potvrdila ili odbacila hipoteza formulirana u naslovu.

### **KLJUČNE RIJEČI**

tržište kapitala, financijske investicijske tvrtke, Grangerov test kauzalnosti, regresija