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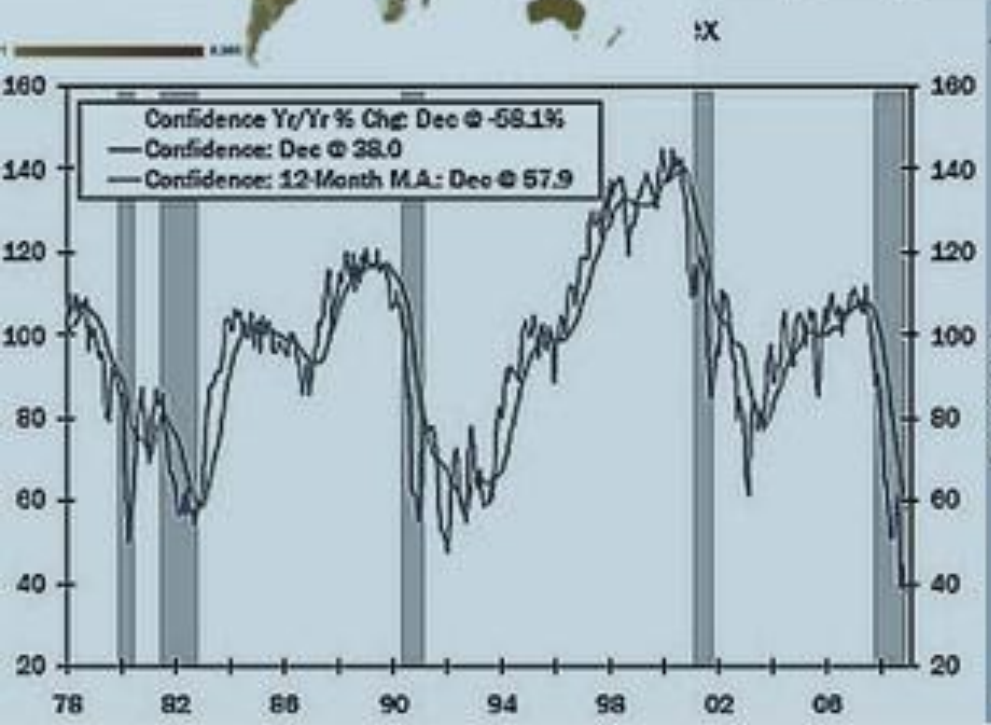

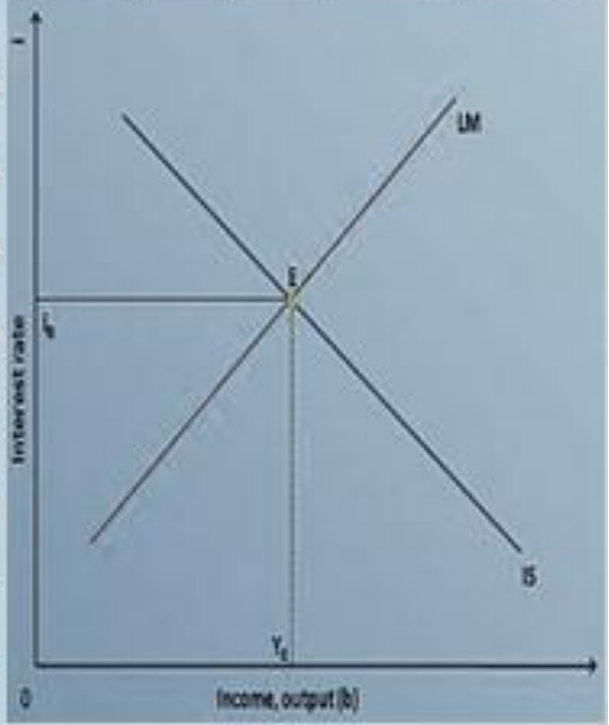

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CONTENTS

Research articles

Young researchers

ARE THE ANNOUNCEMENTS REGARDING MACROECONOMIC FUNDAMENTALS RESPONSIBLE FOR CHANGES IN THE DYNAMICS OF STOCK MARKETS? CEE VS DEVELOPED MARKETS

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Abstract*: Fama (1965) postulates that a market is efficient if the prices of the traded assets are an accurate estimator of their value. Moreover, the random walk hypothesis states that all the information available is included in the price of a certain asset.*

This paper aims to investigate if a series of macroeconomic announcements generates abnormal evolutions for Central and East European stock market indices and also for indices belonging to countries with solid and liquid financial markets. In order to achieve this objective, we use an event study that extends the methodology found in Albu et al (2014 a). Our analysis is carried out both in terms of abnormal returns and abnormal variances.

We find that the battery of macroeconomic announcements does not influence the dynamics of the indices considered in this study. In spite of this, our results point out strong effects in terms of abnormal variances, both for CEE and developed countries.

Keywords: macroeconomic fundamentals, stock market indices, efficient markets, event study

JEL classification G14, G17

Introduction

Over the last period, the financial research and literature have shown that financial markets are sensitive in relation to the launch of macroeconomic news.

In general, governments or public and private institutions such as statistical offices issue statements on several key economic elements that characterize the dynamics of the economy. These announcements tend to influence the dynamics of financial assets given the fact that they offer a clear image on the present state of the economic system and possible hints about its future evolution.

The magnitude of this influence is by no means homogenous and obviously varies depending on the nature of announcement. This fact constitutes the topic of a strong and fast growing literature that studies the impact of numerous economic variables on several financial assets.

The research question of the present research falls in line with a large block of literature that studies the linkages of macroeconomic variables and financial data such as:

Fama (1900), Maysami and Koh (2000) or, Lupu and Călin (2014) and also with the literature that analyzes the impact of economic news on financial markets like: Schwert (1981), Andersen et al (2007), or Bekaert and Engstrom (2010).

The purpose of this paper is to investigate the impact of a large battery of economic announcements on the dynamics of stock markets. More specifically, we aim to determine whether the launch of new economic information influences the dynamics of stock market indices. The analysis firstly considers a set of CEE indices and then focuses on a set of indices belonging to developed countries. In an event-study approach, we try to find if the considered announcements generate reactions in terms of returns (abnormal and cumulative abnormal) and in terms of variance.

The remainder of this paper is organized in the following manner. Section II offers a brief review of the related literature. Section III shows the data and the modeling approach. Section IV presents the results, while section V concludes.

Literature review

Our research relates to a large block of academic literature that studies the interconnections between macroeconomic variables and financial elements. Seminal work in this direction has been carried out by Chen, Roll and Ross (1986), Fama (1900), Lee (1992), or Albu Lupu and Călin (2014 b). Other interesting results derive from studies such as: Maysami and Koh (2000), Hondroyiannis and Papapetrou (2001), Gruber and Kamin (2012) or Karunanayake et al (2012).

More recently, Lupu and Călin (2014) conduct an analysis oriented towards the CEE countries. The authors focus on the potential connections between the dynamics of GDP and of stock market indices. The results show a mild degree of dependence between economic growth and the movements of the financial markets, the only clear evidences being reported for Slovenia and Lithuania.

In an industrious approach, Abdullah, Saiti and Masih (2014) study the interactions between macroeconomic fundamentals and national stock market index of Malaysia. The authors employ the Johansen VECM, generalized variance decompositions and wavelet techniques and find a cointergration between the Malayan index, bond yields, export exchange rate and the short term interest rate.

Belingher (2015) studies the linkages between domestic consumption and the dynamics of a short-term sovereign bond for the case of Romania. Using a VAR approach, the author confirms the existence of a connection between the two elements.

Călin (2015 a) tries to determine the connection between economic growth and the volatility of stock market indices for a series of European countries. The study does not point out a stable relation between the two variables. The only stable link reported is that of Germany.

Albu, Lupu and Călin (2015) study asymmetric volatility and its relationship with the economic variables. The results exhibit an important goodness of fit for Poland, Czech Republic, Hungary and Romania, though the dependence coefficients are not statistically sound.

In addition to this, this paper extends the existing literature that studies the impact generated by news on financial data.

The most relevant area of research in this field is that which investigates the influence of news regarding macroeconomic fundamentals on several financial assets. Key contributions in this direction have been put forward by Schwert (1981), Fleming and Remolona (1997), Balduzzi, Elton, and Green (2001), Andersen et al (2007), or Bekaert and Engstrom (2010). Similar approaches are found also in more recent works.

Aizenman et al (2015) use a similar methodology to our approach to study the effects of news regarding the global crisis and the Eurozone crisis on emerging countries equity and bond markets. The authors report that the global crisis induces a negative effect on the returns of the two above mentioned markets. The effect of Eurozone crisis is considered to be milder.

Kurov et al (2015) observe the price dynamics of American stock index and treasury futures in relation to US macroeconomic announcements. Using a series of 18 relevant announcements, the authors detect traces of price drifts and motivate them as causes of informational leakage and superior forecasting.

Thomas el al (2015) use a nowcasting approach and observe that in the 1998 – 2003 interval, the impact of announcements on Treasury bond futures can be a cause of differences of intrinsic value.

Smales and Young (2015) study the dynamics of gold future with respect to the launch of macroeconomic announcements. The authors report that the largest impact derives from announcements about the unemployment rate and the GDP. An interesting result is the fact that gold prices tend to react stronger to positive economic news and that this reaction is invariant in relation to the economic recession.

Călin (2015 b) focuses on the impact of trade announcements on the FOREX market. The results try to show what currencies react to the economic news and what types of announcements generate the largest impact. The author reports that the currency market is most sensitive to news regarding the trade balance and the level of imports and exports.

Methodology and data sources

Our approach uses two types of data. The first data set consists of stock market indices. On one hand the analysis considers CEE indexes (BET, BUX, PX, WIG, BIST 100, MICEX)[1], and respectively indices belonging to developed countries (S&P 500, FTSE 100, DAX 30, CAC 40, NIKKEI 225)

They were observed for the 01 January 2000 – 10 June 2015 interval and have a daily frequency. The graphical representation of the date is found in Figure 1 and Figure 2.

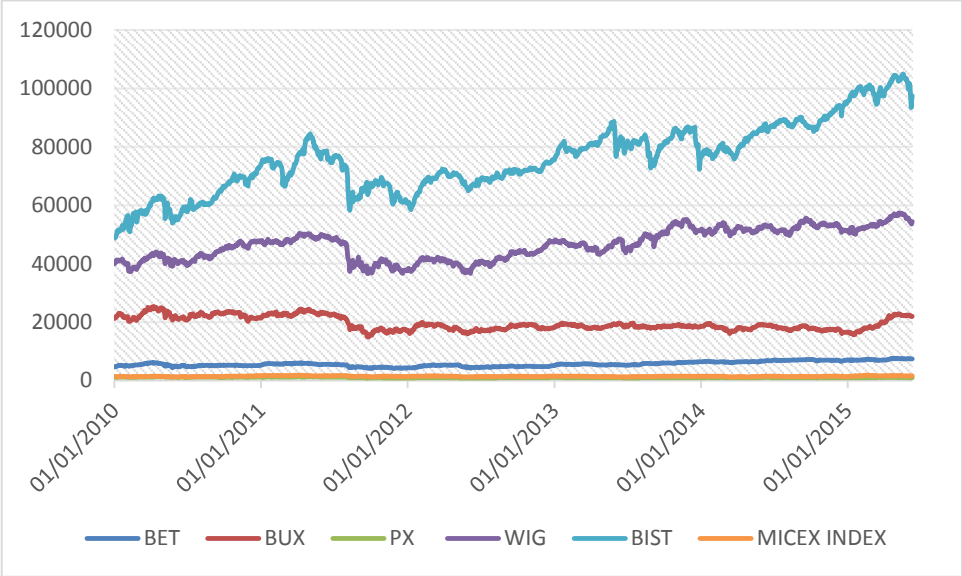
The second set of data consists in a large battery of announcements regarding several economic fundamentals. The main categories of events included in the study represent communications on:

- *Current account*
- *Imports*
- *Trade Balance*
- *Inflation*
- *Repurchase rate*
- *Private consumption*
- *Government consumption*
- *PPI (producer price index)*

The selected events are representative for the countries included in this analysis and total 271 announcements.

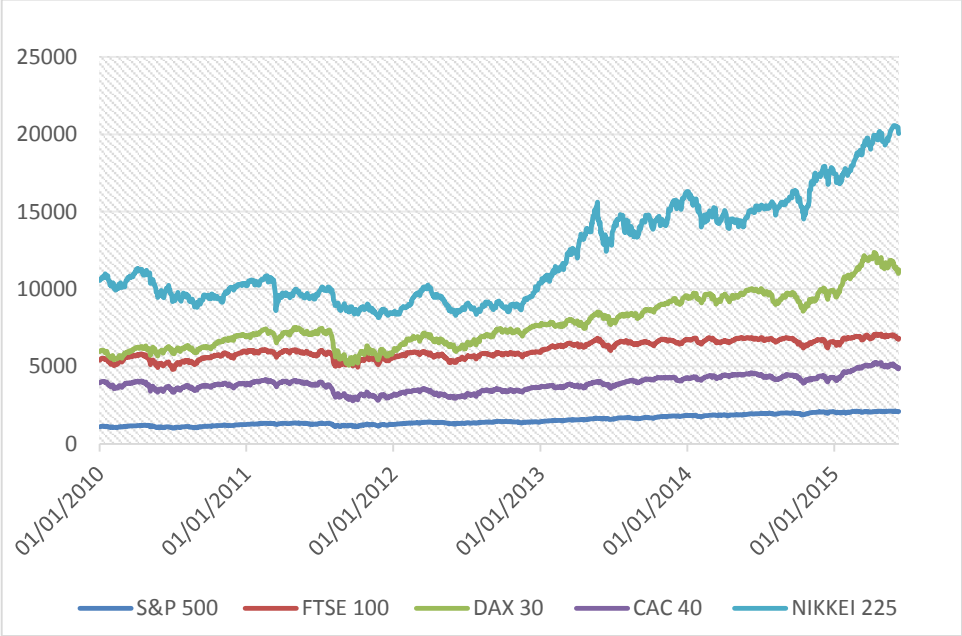
[1] For more details on the characteristics of CEE stock market indices see Panait and Lupu (2009) or Tudor (2011)

Figure 1: The dynamics of stock market indices – CEE countries



Source: Authors' calculation

Figure 2: The dynamics of stock market indices – developed countries



Source: Authors' calculation

Our methodology uses the setup put forward by Albu et al (2014a). Therefore, in our event study scenario we calibrate an ARMA (1, 1) – GARCH (1, 1) model for a time frame of 101 days that relate to 100 returns. The model is explained by the subsequent set of equations:

$$R_{t+1} = lR_t + m\varepsilon_t + \varepsilon_{t+1},\ \varepsilon_{t+1} \sim N(0, \sigma_{t+1})$$

$$\sigma_{t+1}^2 = \omega + \sum_{i=1}^{p} \alpha_i R_{t+1-i}^2 + \sum_{j=1}^{q} \beta_j \sigma_{t+1-j}^2$$

Where $\alpha + \beta < 1$

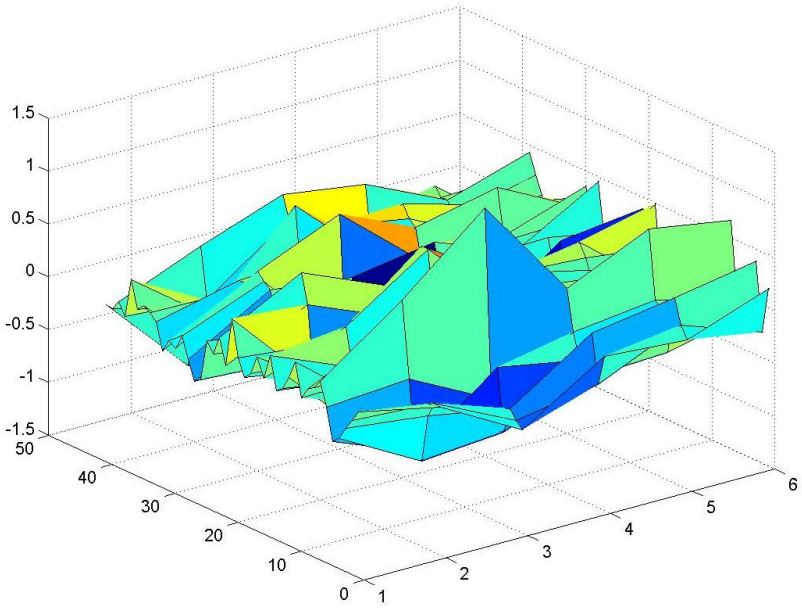
Following the above mentioned approach we isolate an event window of 41 days and we simulate forecasts with the GARCH model. By comparison to the real returns we obtain the series of abnormal returns.

Our methodology allows the computation of three sets of results. Firstly, we focus on abnormal and cumulative abnormal returns. In addition to this, we also seek to determine traces of impact in terms of abnormal variances.

Results

As stated above, our study tries to determine the effect generated by a large set of economic announcements on the evolution of several stock market indices from Central and Eastern Europe and developed countries. Our analysis investigates this effects both in terms of abnormal returns and variance.

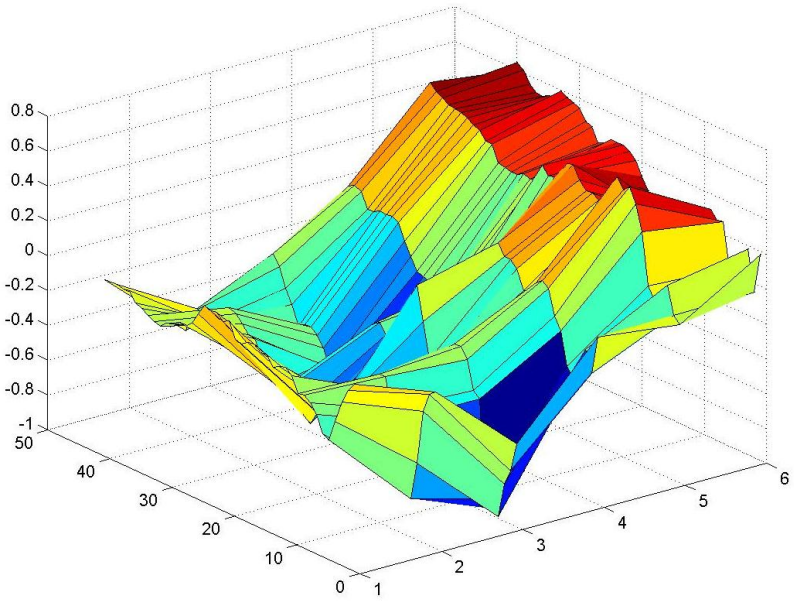
Figure 3: Abnormal returns - CEE



Source: Authors' calculation

Figure 3 shows the representation of abnormal returns. Our results indicate the fact that the large set of events does not succeed in generating a statistically valid influence. This result highlights the fact that the markets included in this study are efficient. The results obtained for cumulative abnormal returns indicate a similar situation. The impact of the above mentioned events on the stock market indices is not statistically valid. The graphical representation of the cumulative abnormal returns computed in our investigation is shown in Figure 4.

Figure 4: Cumulative abnormal returns - CEE



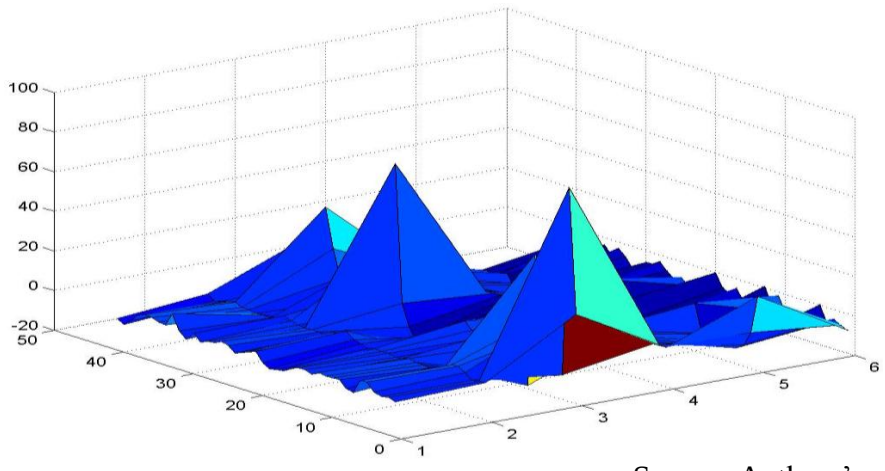
Source: Authors' calculation

Despite the results observed in terms of returns, the situation is totally different in the case of abnormal variances. They react profoundly and statistically significant for the case of every studied assets besides the WIX index. Figure 5 shows the dynamics of the abnormal variances computed in our analysis.

The aggregate results for the Romanian index show that the 271 events succed in generating abnormal variances in 41% of the days in event window. We detect abnormal variances prior to an announcement (in the (-4, -1) interval) and towards the end of the event window ((10, - 20) interval). Despite this fact, the result do not show traces of impact on the announcement day.

The BUX index manifests significant abnormal values in the days in which annoucenments are made. This index reacts in a similar way to BET in about 34% of the cases. The results show a period of strong abnormal volatily contrated towars the end of the first week of the event window.

Figure 5: Impact on variance - CEE



Source: Authors' calculation

The PX, BIST and MICEX indices react more profoundly in terms of variance to the announcements included in the study. The cumulative reaction for these three indices is 95%, 97.5% and respectively 87% of the total days of the event windows.

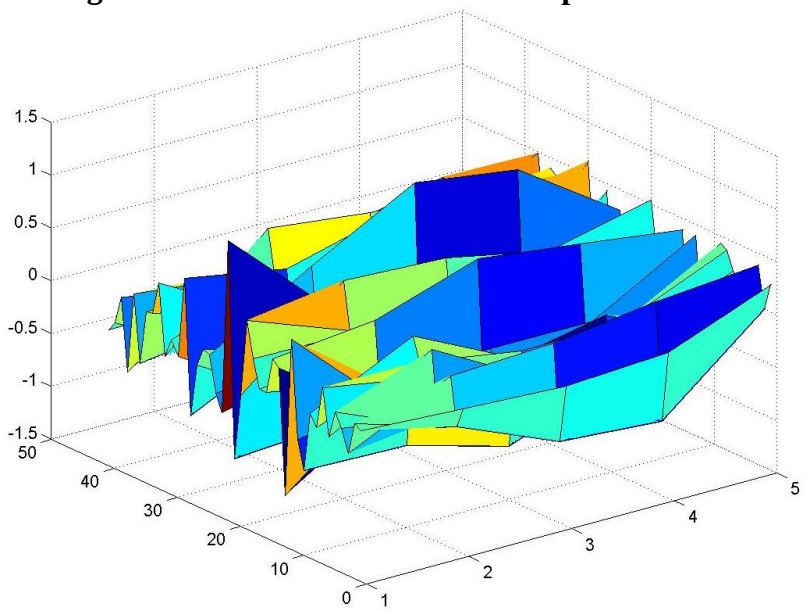
For these financial assets, the information present in the market prior to the launch of an event leads to significant volatility reactions in almost every day of the (-20, 0) interval. In addition to this, at an aggregate level, we observe abnormal variances for every announcement day. Relevant abnormal variances were observed for the three assets throughout the entire (1 – 20) interval.

The next step in our study consists in extending our approach towards a set of mature and liquid markets in order to have a reference for the previous results.

The abnormal and cumulative abnormal returns follow the previously explained paradigm and exhibit a low sensitivity towards the announcements included in the study. The results obtained for abnormal and cumulative abnormal results are graphically shown in Figure 6 and Figure 7. The lack of a statistically significant reaction in terms of returns highlights the idea that these markets are efficient.

Despite this shortage of statistically significant results in terms of returns, the analysis directed to the variance shows a relevant series of results that is presented in Figure 8.

Figure 6: Abnormal returns – developed countries

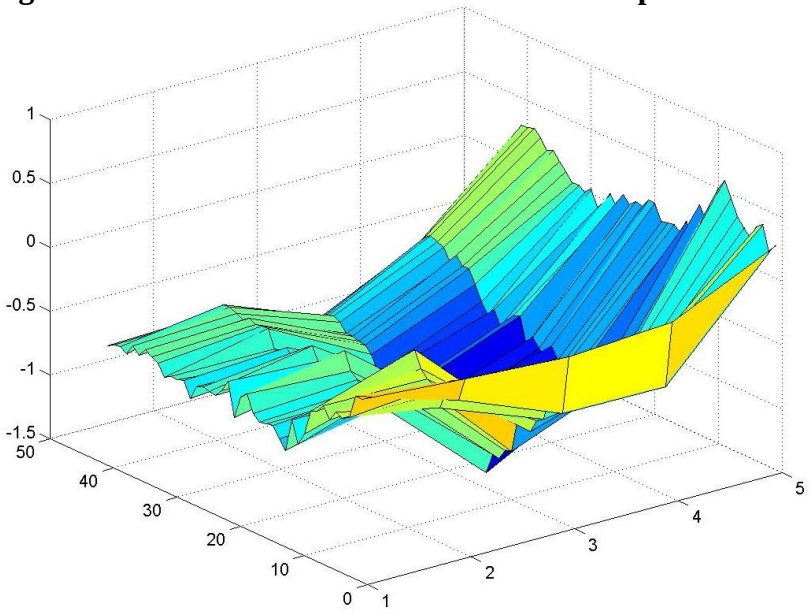


Source: Authors' calculation

S&P 500 reacts substantially to the announcements that are specific to the US economy, exhibiting significant values in 92.6% of the days of the event windows. The results point to a clear tendency of volatility expansion in the (-4 ; 2) interval and during the first week after an announcement. For the S&P 500 we noticed volatility reactions for each of macroeconomic announcements included in this study. This evolution is similar with that previously observerved for the PX, BIST and MICEX indices.

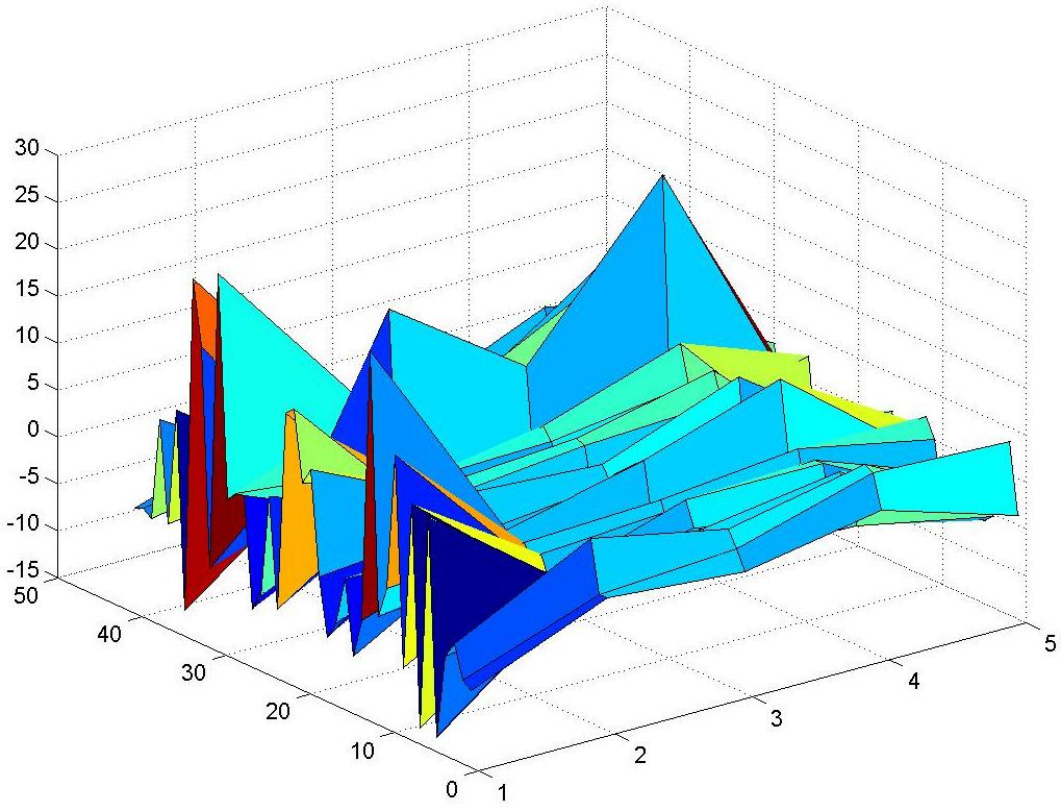
The situation of the FTSE 100 is contrasting. The results indicate abnormal volatilities in 395 of the possible cases. These are concentrated in the (-3 ; 0) intervals and then towards of the end of the first ten days after the announcement. Despite an aparent weak reaction we notice a strong surge of volatility on the days in which announcements are made.

Figure 7 Cumulative abnormal returns - developed countries



Source: Authors' calculation

Figure 8: Impact on variance - developed countries



Source: Authors' calculation

The results show a symmetrical dynamics for the DAX 30 index that has reacts in about 41.6% of the possible cases. In other words, for this index we observed abnormal volatilities in 17 of the 41 days of the event window. Relevant moves in abnormal volatility are seen around the announcement moments and in the first week that follows.

The variance of the CAC 30 index is also influenced by the macroeconomic news. This index shows signs of impact in 44% of cases. The results reflect significant areas of abnormal volatility, especially in the (3, 11) interval. In a similar way to the above discussed financial assets, the abnormal variance of the CAC index is statistically significant on announcement dates.

A powerful influence is also observed for the NIKKEI 225. The index reacts in terms of variance in 32 of the 41 days of the event window. The (-20; -11) interval shows important abnormal variances. This pattern is maintained during the first weak that follows the launch of economic announcements.

Conclusions

The present paper aimed at investigating the effects induced by macroeconomic announcements on stock markets, focusing on the case of CEE countries versus developed countries. For this purpose, our modeling setup incorporated specifications for both abnormal returns and abnormal variances.

For both types of indices (CEE and developed) the results showed a lack of impact in terms of returns from news that describe phenomena such as: GDP, current account, imports, trade balance, expected inflation, private and governmental consumption.

This shortage of significant results in terms of abnormal returns hints to the fact the financial markets included in this study are efficient and incorporate correctly the level of available information.

Despite these results, the analysis that aims at abnormal variances has revealed significant values for all the studied cases. Moreover, the degree of influence was generally high. The announcements consisting in details about the dynamics of macroeconomic variables determine thus oscillations and surges of abnormal volatility for the markets included in this research.

This substantial and ubiquitous volatility that exceeds the level considered normal for the existing information can be interpreted as a state of uncertainty that derives from the difficulties which investors face in the right interpretation of the effects that will follow the economic announcements.

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SEVERAL EVIDENCES FROM THE SECONDARY CATASTROPHE BONDS MARKET

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Abstract: *Within the paper we investigated the influence that a series of indexes that reflect the performance of CAT bonds has on the spread of these financial products. By employing a regression analysis, we have identified several determinants of the premium of the catastrophe bonds.*

Key words: CAT bonds, regression analysis, spread, secondary market

JEL codes: G00, G22, G23

Introduction

Given the fact that *"catastrophic events are having an increased effect on traditional insurance markets"* (Baryshnikov, Mayo and Taylor, 2001) there is a clearly identifiable worldwide trend that indicates that CAT bonds are used more and more in order to *"access capital markets and to extend the flexibility of reinsurance hedging"* (Baryshnikov, Mayo and Taylor, 2001) and are even emerging as staple hedging tool with a relevant secondary market.

The basic benefits of CAT bonds are highlighted by Cummins (2008) which references the important role these play on the capital markets and mentions the fact that starting with 2001 these were priced competitively with catastrophe reinsurance and comparably rated corporate bonds.

The objective of this paper is to examine the secondary market of catastrophe bonds and investigate the influence that a series of indexes that reflect the performance of catastrophe bonds on an international level has on the spread of a sample of CAT bonds. Considering the work of Gomez and Carcamo (2014) that highlights the fact that CAT Bonds are appealing and relevant for different types of investors which leads to the importance to compute and understand the price dynamics of these securities.

The paper is structured in three main sections which include: a brief literature of the recent and relevant developments in the field, the data and methodology proposed within this paper, the main findings of the paper and concluding remarks and future research.

Literature review

Although the study of CAT bonds is relatively new, there is already an established mass of papers that deal with the pricing and performance of catastrophe bonds at issuance.

Lane and Mahul, (2008) analyze 250 catastrophe bonds to examine the manner of assessing catastrophe risk. In this sense, the authors apply both a simple linear model and a cross-sectional analysis to determine the combined effect of expected loss regarding reassurance disasters specific cycles, the type of risk covered (wind USA, USA earthquake,

wind Europa, Europa earthquake, wind Japan, Japan earthquake and other risks) and the risk profile of the transaction. The authors show that, individually, each element is statistically significant. Gatumel and Guegan, (2008,) start from staple studies that aim to capture the market price of risk, complementing the same time the analysis with a study on the determinants of the spread. In this respect, the analysis results reflect the vectors that influence the spread, as mentioned by the authors, both a structural component, i.e. investors' risk aversion and a term component type, such as the seasonal nature of hurricanes. On the final determinant, the authors stress that natural risks (such as US hurricanes, storms or earthquakes in California and Europe) have a strong impact on the market.

Lei, Wang and Tzeng, (2008) analyzed a sample of catastrophe bonds issued in 1997-2007 to highlight factors that influence the spread of such securities. Among the factors analyzed they mention: the expected loss, probability event to be triggered, the likelihood that investors may lose the entire principal, the expected loss associated with a dollar invested conditional triggering event, the type of release mechanism to reflect the underlying risk, the size of the tranche, their maturity, rating, risk type, year of issue and the place (to reflect some macroeconomic environment associated events such as cycles of conferences of reinsurance or catastrophe). Results of the analysis reflect: the likelihood that investors will lose their entire principal and the type and size of the release mechanism has no influence on spread of these financial instruments.

Bodoff and Gan (2009) proposed a linear function model of the expected loss, with parameters that vary by risk area. In detail, the relationship between the catastrophe bond premium and expected loss varies according to the risk covered and the geographic area. In this sense, each unique combination of risk and the area is reflected in its price line. In addition, the authors propose an approach that combines these individual models within a single model. Key findings reflect that spread determinants are represented by the expected rate of return on capital and the uncertainty associated with expected loss.

Papachristou (2009, 2011) reviews catastrophe bond prices as determined by the market with a generalized additive model. As specified by the analysis, it includes examining the statistical significance of the various factors that may influence the prices of these bonds and measuring the effect of these factors on the spread. The analysis includes catastrophe bonds issued between 2003 and 2008, and the main determinants of the spread considered in the analysis are: the expected loss, the issue date is representative of the market cycle, risk and geographical area. Of these, the expected loss appears to be the most important influence on the spread. Besides these, the author explains a number of determinants that are not included in the model because they are not significant in statistical terms: the time remaining to maturity, transaction size, time of issue within the year.

Braun (2012) analyzes the main factors that influence the spread, based on a number of assumptions. After running a regression analysis he confirms that the expected loss, the covered territory, the sponsor, reinsurance cycle and spread of corporate bonds rated BB are major determinants of catastrophe bond spreads.

Although there are several approaches to CAT bond pricing, some recent developments involve multifactor spread models with several underlying factors such as *"Spread at Issue, Expected Loss, Credit Rating, Time to Maturity, BB-Bonds Index, Interest Rate and Swiss Re Cat Bond Total Return Index"* (Gomez and Carcamo, 2014)

Data and methodology

Considering primarily the work of Gomez and Carcamo (2014), we have realised several analyses at the catastrophe bonds secondary market level. In this regard, we have focused on the influence that a series of indexes that reflect CAT bond performance on an international level exert on the bond spread in our selected sample. The analysis involved computing index returns on a trimester level to realise the correspondence with the average trimestral spread of CAT bonds traded in that particular trimester. Thus, we considered Swiss Re developed indexes – being considered a CAT bond industry-wide benchmark. In this regard, we build five baskets of indexes: [1] Global [2] Global Un-hedged [3] CAT bonds denominated in USD [4] BB rated CAT bonds [5] CAT bonds that cover storms/ hurricane type events. We selected those indexes that reflect in a composite manner both coupon and price returns (generically called Total Return).

By employing a simple regression analysis, we aim to determine the impact of five independent variables (trimester returns of indexes) by computing respective coefficients to determine the magnitude of the impact. We considered the spread of CAT bonds as the average spread on a trimester level for transactions of EU based reinsurance companies in the respective trimester. We checked the statistical significance of results using a simple t-statistics test.

The raw data was collected from Bloomberg (indexes) and Lane Financial (spread). The log-returns were computed and the analysis was performed in Eviews 5.

Results

Our analysis results highlight the fact that there is a relationship between the trimester performance of CAT bonds indexes (generally negative) and spread, confirming the results of Gomez and Carcamo (2014) but employing a different analysis applied on a different sample. Basically, our results show a negative relationship between indexes (performance on a price and coupon level) and CAT bond spread (according to economical grounded hypotheses). As shown in the figure bellow, all coefficients for all five indexes are statistically significant at 5% and negative.

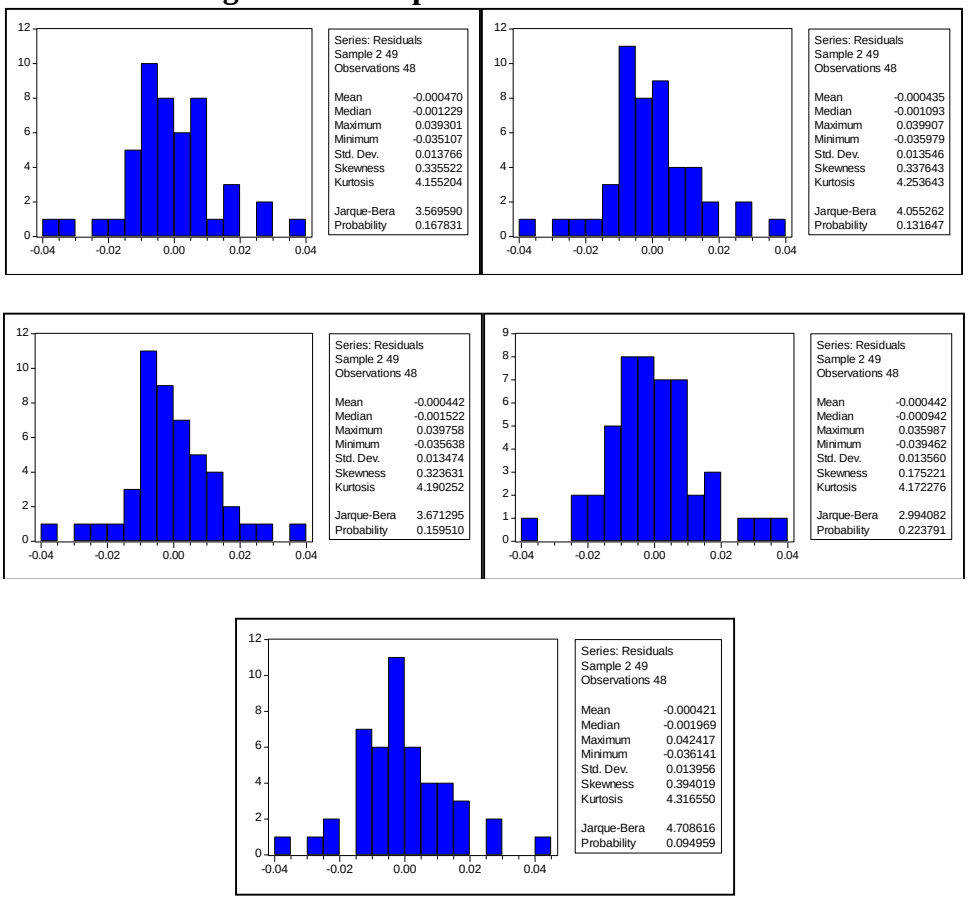
Table 1. Relationship between indexes and spread

Variable	Coefficient	Std. Error	t-Statistic	Prob.
[1] D(SRBBTRR)	-0.255300*	0.086646	-2.946474	0.0050
[2] D(SRCATTRR)	-0.284079*	0.087632	-3.241724	0.0022
[3] D(SRGLTRR)	-0.324112*	0.097186	-3.334972	0.0017
[4] D(SRGLUTRR)	-0.296791*	0.092085	-3.223015	0.0023
[5] D(SRUSWTRR)	-0.178655*	0.066625	-2.681493	0.0101

* statistically significant at 5%

Additionally, as shown in the figure bellow residual testing show that the model used is appropriate, derived from the fact that we cannot reject the normal distribution hypothesis.

Figure 1. Descriptive statistics of residuals



Concluding remarks and further work

The aim of this paper was to determine, on a secondary market level, the influence that a series of indexes that reflect CAT bond performance on an international level exert on the bond spread, considering Swiss Re developed indexes that reflect in a composite manner coupon and price returns. As a result, of our regression analysis we found that there is a negative relationship between the performance of CAT bonds indexes and spread marginally more influence was exerted by CAT bonds denominated in USD than any other index. The results seem to be consistent with mainstream results so far, however, we aim to further extend the analysis by including more factors/ indexes and using various subsamples of spreads as well as various frequency data.

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MOBILE NUMBER PORTABILITY AND CONSUMER BEHAVIOUR: A STUDY WITH REFERENCE TO BHARAT SANCHAR NIGAM LIMITED, INDIA

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Abstract: *The present study examines the consumer behavior towards Mobile Number Portability plans offered by BSNL, India. A multiple cross sectional descriptive research which was conducted across a gamut of respondents revealed that most consumers who had ported to BSNL services were happy with their services. They associated BSNL as a trusted brand, excellent network coverage provider, low tariff provider etc. However consumers were not happy with BSNL's 24 x 7 call center customer care service.*

Keywords: BSNL. Consumer, MNP, Service

JEL Codes: M30, M31, M39

Introduction

Bharat Sanchar Nigam Limited (abbreviated BSNL) is an Indian state owned Telecommunication company headquartered in New Delhi, India. It is the largest provider of fixed telephony and fourth largest mobile telephony provider in India, and is also a provider of broadband services. However, in recent years the company's revenue and market share plunged into heavy losses due to intense competition in Indian telecommunications sector mainly in the mobile sector.

BSNL, before year 2000, known as the Department of Telecommunication had been a near monopoly during the socialist period of the Indian economy. During this period, BSNL was the only telecom service provider in the country. After the liberalisation of Indian economy in 1991, BSNL faced stiff competition from the private to notch up better numbers in all areas, years after year. Bharat Sanchar Nigam Ltd. was incorporated on 15th September 2000. It took over the business of providing telecom services and network management from the erstwhile Central Government Departments of Telecom Services (DTS) and Telecom Operations (DTO), with effect from 1st October' 2000. It is one of the largest & leading public sector units providing comprehensive range of telecom services in India. Today, it has about 43.74 million line basic telephone capacity, 8.83 million WLL capacity, 90.60 million GSM capacity, 37,885 fixed exchanges, 68,162 GSM BTSs, 12,071 CDMA Towers,197 Satellite Stations, 6,86,644 RKm. of OFC, 50,430 RKm. of microwave network connecting 623 districts, 7330 cities/towns & 5.8 lakhs villages. BSNL is the only service provider, making focused efforts & planned initiatives to bridge the rural-urban digital divide in Information & Communication Technology sector. In fact there is no telecom operator in the country to beat its reach with its wide network giving services in every nook & corner of the country & operates across India except New Delhi & Mumbai. Whether it is inaccessible areas of Siachen glacier or North-Eastern regions of the country, BSNL serves its customers with a wide bouquet of telecom services namely Wireline, CDMA mobile, GSM mobile, Internet, Broadband, Carrier service, MPLS-VPN, VSAT, VoIP, IN Services, FTTH,

etc. BSNL has set up a world class multi-gigabit, multi-protocol convergent IP infrastructure that provides convergent services like voice, data & video through the same Backbone & Broadband Access Network. At present there are 8.09 million broadband customers .The Company has vast experience in planning, installation, network integration & maintenance of switching & transmission networks & also has a world class ISO 9000 certified Telecom Training Institute.

Mobile number portability (MNP) enables mobile telephone users to retain their mobile telephone numbers when changing from one mobile operator to another.

In India, tele density touched more than 85% till beginning of 2014. Hence mobile number portability helps the operators to compete among themselves in a healthy way to get more customers. Before MNP, customers were not able to take any other operator because they will loose their number which is being used for a long time. Implementation of MNP will not only give wider choices to the Indian subscribers but will also compel service providers to offer innovative, affordable and competitive tariff plans for the benefit of the masses. Today BSNL competes with many other mobile operators throughout India. They are Aircel, Airtel, Idea, Loop Mobile, MTNL, MTS, Reliance Communications, Tata DoCoMo, Tata Indicom, Videocon, Virgin Mobile, Vodafone etc. After the implementation of Mobile Number Portability (MNP) in India, it gave all the telecom operators to increase its market share by attracting more customers from other operators.

Rationale of the study

Number Portability allows consumers and businesses to keep their existing telephone numbers when they switch operators. This gives subscribers the freedom to choose operators based on criteria like services, price, and customer service. Their freedom of movement is not influenced by the inconveniences and costs that come with changing numbers. It also makes it easier for operators to compete for customers, precisely because it eliminates a major barrier reluctance to change numbers. Number portability has been a huge success around the world, because it helps to level the playing field, giving all operators more opportunities to grow their subscriber bases and revenues. In India MNP was launched on 20th January 2011. As more than four years completes after MNP launch in India, many operators have gained and meanwhile others have lost their valuable customers.

BSNL the state owned telecom service provider is operating in 26 Circles throughout India except Delhi and Mumbai and is the number one Wire line and internet service provider in India, but in mobile segment it presently stands at fourth position. MNP launch was predicted boon for this company, but instead it lost many of its valuable customers to others operators when seen all India status.

But in Kerala state, India, it gained many customers due to MNP and presently BSNL Kerala circle have more than 12 lakhs net MNP additions. This study mainly deals in understanding the consumer behavior towards MNP with regard to BSNL services.

Literature review

Studies on Mobile Number Portability and its effects are conducted by various researchers and authors in many countries. Shin (2006) conducted a study on 684 U.S. cell phone subscribers to know the perceptions and behavior of subscribers and its effect of Mobile Number Portability. It was found that switching barriers such as switching cost and other hidden costs were perceived high by the subscribers. Studies conducted by Gans et al. (2001), Kufer et al.(2007) and Grzybowski (2005) describe costs and benefits of Mobile Number Portability for customers. Kufer et al. (2007) opined that socially efficient results can be attained due to MNO. Kufer et al.(2007) suggests that Mobile Number Portability

implementation means can ensure or threaten competition. Nakamura (2010) carried out research to estimate switching costs involved in changing mobile service provider in Japan. Nakamura found that government policy related to SIM locks does not exist in Japan. Mobile phone market in Japan is saturated. This type of policy can improve portability of cellphone handset. It can also reduce switching costs incurred by the cellphone users while changing network providers as market competition can be boosted up. Viard (2007) carried out to determine whether switching costs make markets more or less competitive by analyzing the case of toll free number portability. Findings show that portability had no significant effect on prices for toll services, which were always portable. The author estimated that portability lowered toll-free prices by approximately fourteen percent for the average customer and concluded that companies reduced their prices when switching costs declined.

Research methodology

Descriptive research is the most suitable method to be adopted to arrive accurate findings. Descriptive research will be helpful for fact-findings through surveys and enquires. The present study used descriptive research. The primary data was collected in the form of a questionnaire. The data was collected from the customers using survey method either in person or via email. The data for the study focused on the opinions of retailers, direct selling agents and customers about BSNL and services offered by BSNL. The opinions were marked as frequency distributions. Secondary data was collected from books, journals, internet and company records.

Tools and technique of the analysis

- Descriptive statistics
- Chi-Square test of independence
- Analysis of variance

Sampling plan

Sampling may be defined as the selection of some part of an aggregate or totally on the basis of which a judgment or inferences about aggregate or totality is made. In other words it is the process of obtaining information about entire dealers by examining only a part of it. A total of 1554 responses were elicited using convenient sampling technique. Most of the responses were online.

Major findings and discussions

82% of the respondents were happy after having ported to BSNL. Only 12 % of the respondents wanted to port out of BSNL. Rural area was found to be the major area of MNP as BSNL was having good coverage in these rural areas where other private operators did not have. 82 % of customer responded that they got information about MNP through BSNL employees. Customers who ported to BSNL had billing issues with their early service providers. Some customers (38.9%) shared that private operators charged more from them than the existing tariff. Most of the customers (88%) pointed out the fact that they trusted BSNL in billing issues as they believed that BSNL being a government company will not cheat them. It was also found out that there was no significant difference in the various reasons in porting to BSNL as far as age group was considered. Network coverage and low tariff plans were the major reasons for porting to BSNL. It was also found out that customers were dissatisfied with the non-availability of BSNL recharge coupons. BSNL has to improve its retail network in order to tackle this. Commission rate should be adopted like the private

players so that retailers would be interested in associating with BSNL. 87% of the respondents were unhappy with the 24x 7 call center support of the BSNL.

Conclusions

In India the Tele density has touched 80% in the year 2014. But the number of active customers in the database of operators indicated actual Tele density being less than 80%. As per telecom regulatory authority of India report, in the month of September - October 2014, there was a net decrease in Tele density in India as some operators closed the connections of customers who were not using their connections for about six months. The best way for all the operators is to compete in the industry to get more connections through MNP. A clear cut strategy is required for BSNL to sustain the net achievement in growth of MNP connection.

As seen from the survey some of the customers change operators seeing the brand image of the firm. So it is time now for BSNL to have its brand image established. Till now BSNL has a brand image of being a government company, but in future it has to become a competitive and challenging company in the industry. Issuing of pamphlets and door to door marketing through employees is not the best strategy that a company likes BSNL as to do. It was seen in the MNP figures that these methods work only for some period of time. In addition to that these methods sometimes tarnish the image of the firm. BSNL has been a monopoly in the telecom field till 2000 as number of private operators was very less. These door to door campaigning by BSNL employees would make customers think that BSNL is going to sink in near future that is why they are looking for this type of marketing strategy.

Marketing through newspapers and television advertisements are important to make a good brand image of the firm. As many respondents pointed out the poor performance of customer call helpdesk of BSNL, BSNL management should think of posting adequate number of employees in these helpdesk to manage customer calls. Atleast 90% of customer calls should be attended to have good image for the call center.

Limitations of the study

This study was mainly based on survey method of research. Therefore, the limitations of survey method might have influenced the outcome of the research. Hence, not all the findings of the study could be generalized since the research variables and determining factors being investigated in the present study could have different dimensions in different context and settings.

Directions for future research

Now days competitions are becoming more tough due to more operators. A manager should ensure the overall and sustainable growth of the organization through effective implementation of various plans and strategies to increase the growth rate of net customer addition. It require continuous monitoring and research in the market. A team of specialized management professionals should analyze the market situation to determine the various satisfactory level of operation and position company's mobile tariff plans which will be more attractive to the customers.

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THEORETICAL APPROACH TO RURAL AREAS WITH A FOCUS ON TYPOLOGY OF SETTLEMENT IN THE EUROPEAN UNION AND RURAL DEVELOPMENT IN MONTENEGRO

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Abstract: *Throughout the history of rural society has evolved from the primitive village community to the modern, highly developed, rural society. Sustainable rural development is one of the economic, social and environmental priorities in modern society. In this respect, the European Union gives a strong impetus to social and territorial cohesion of rural areas and aims to provide a more efficient evaluation of local development potential, in accordance with the principles of sustainable development. The aim of this paper is to show the theoretical approaches to defining rural area, and the necessity of modernization policy of sustainable rural development of Montenegro in the integration process into the European Union. In the Member States of the European Union in 2011, lived 23% of the population in rural areas. Most of the population in the countries of the European Union residing in the rural areas was recorded in Ireland (73%), Slovakia (50%), Estonia (48%), Hungary (47%) and Romania (46%). Condition in which there is a rural area of Montenegro and explore possibilities for his overcoming represents a sufficient motive for making this work.*

Key words: Rural development, European Union, Montenegro.

Introduction

According to Kelles - Viitanen (2005) referring to research Bauman (1998) and World Bank (2005) promoting development in rural areas is a slow and complex process. It requires simultaneous action in various sectors, in an environment undergoing rapid, sometimes volatile change. The change comes from internal as well as external processes such as privatization and globalization, by forces appearing scattered and disparate. What is the lot of rural societies in this change? Just to adjust to rapidly changing and highly is competitive international economy, or to have a more innovative and proactive role?

Everywhere in the world, poverty has a rural face. Three quarters of the poor of the world population lives in rural areas, often in extreme poverty of the under-resourced and unable to provide for themselves and their families permanent access to food. Options to increase earnings to them are limited, as many of them determined to live from agriculture. Therefore, they have access to land and water must be provided, as well as adequate infrastructure. It also includes health care and opportunities for education and access to markets. In addition, discrimination against women and girls in rural areas is high, especially

their ability to participate in political decision-making. The UN Millennium Declaration which is associated with the Millennium Development Goals (MDGs) launched a new global partnership for development. Considering that most of the poor live in rural areas, rural development contributes to poverty reduction (MDG 1). Rural development aims to support production potential compatible with the principles of environmental sustainability (MDG 7), as well as the development of national and global structures (MDG 8) extension in agriculture, the availability and safety of food, agricultural trade and policy, land management (www.zelenamreza.org).

The Commission's approach to EU rural development policy has been extraordinarily consistent. Back in 1988, in its first formal statement of rural policy, it stated that its approach to rural development was guided by three fundamental considerations: economic and social cohesion, in an enlarged Community of very pronounced regional diversity; the unavoidable adjustment of farming in Europe to actual circumstances on the markets and the implications of this adjustment not only for farmers and farm workers but also for the rural economy in general; the protection of the environment and the conservation of the Community's natural assets. There is an uncanny resemblance between the themes identified in this statement and the three objectives for EU rural development policy set out in Article 4 of the 2005 Rural Development Regulation, the most recent statement of EU rural development policy. Support for rural development shall contribute to achieving the following objectives: improving the competitiveness of agriculture and forestry by supporting restructuring, development and innovation; improving the environment and the countryside by supporting land management; improving the quality of life in rural areas and en scourging diversification of economic activity (Matthews, 2007).

These three core areas of intervention – agricultural competitiveness, environmental protection and the promotion of rural amenities, and strengthening and diversifying the economic base of rural communities – are at the heart of the EU's understanding of rural development. However, it would be wrong to give the impression that the apparent stability in the aims and objectives of this policy over time means that this has been an uncontested concept. Rural policy in the EU was originally defined as a set of accompanying measures for farmers. There has been a continual tension between, on the one hand, what agriculture-based rural development involves (managed alongside the common agricultural policy) and, on the other hand, what economic and technological development in the countryside involves (managed under EU regional policy as part of the policy of territorial cohesion). The struggle to transform the policy from a sector-based to a territorial-based policy has been one of the defining themes in the evolution of the policy (Matthews, 2007).

European Union is accepted the concept of encouraging sustainable development of rural areas based on sustainable economic development, which means increasing living standards, but with simultaneous preserving the natural, cultural and traditional heritage. In this way, rural areas in contemporary Europe are transformed into environmentally preserved and cultivated areas, which are systematically equipped communal and social infrastructure, develop sustainable agriculture and local entrepreneurship and connect with the surroundings. Such areas become pleasant to live, attractive for investment, have perspective and enable the growth of employment and a better standard of living for all its residents (www.mojsijev.com).

According to Bataković (2012) development of institutional capacity in the field of rural development in Montenegro is relatively low, despite the evident of growing awareness of the necessity of strengthening the, underdevelopment of the institutional framework directly affects the difficult access of the rural population of Montenegro physical capital, financial and other services, technologies and markets, the complexity of adjustment rural policy standards and procedures of the EU is not sufficiently recognized. Adjustment the

faster in the domain of legislation and bylaws, and much are slower to strengthen the existing and establishment of new institutions for their implementation and control. Montenegro underutilized positive experiences and good lessons from countries in transition. A major constraint represents insufficient skilled personnel at all levels (from the academic to the administration) whose capacity is not adequate to the complex requirements placed upon them. Experiences in the work of IPARD program help have shown that which is a country before been eager to build are institutional conditions it is quickly establish the necessary structures required, it quickly managed to withdraw and utilize funds provided.

Methodology

Territorial identity, conceived as such, is not an attribute of each territory that has some cultural, productive or landscape features; even less so does it concern alleged essential qualities, and inherent static features. Rather than a product, an outcome or an initial condition, territorial identity is first and foremost a long-term goal, or rather, a dynamic, open and participatory social process, through which local communities – regardless of ethnic, cultural or social differences – choose the hallmarks that they believe characterize the territory where they live/act, in view of a shared project, based on local knowledge, skills and resources (Banini and Police,2015).

The aim of this paper is to show the theoretical approaches to defining rural area, or a text shows population changes in typology urban and rural in the European Union in 2010, including the presentation of the population in 2011 compared to the individual determinants of rural development, based on the data of the Center for support and promotion of European integration (2012) and the available relevant literature. The European Union has adopted a special program of connection for the development of agriculture and rural areas in the candidate countries - SAPARD (Special Accession Program for Agriculture and Rural Development). Taking into consideration resources that are available to households through programs: Interred, Pharr ... The role of the village must be first-rate, because their potential major development forces future of rural areas of Montenegro.

Analysis and Discussion

Scientific interest in rural society created late 19 and early 20 centuries, when the village and agricultural society becomes affected global social processes of industrialization, urbanization and modernization. Then, there is a need to the whole a tangle of social processes and practical problems rationally understand and explain. In today's world the rural society is undergoing tumultuous changes, accompanied by great difficulty fitting into the dominant trends of modern society (Todorović, 2007).

According to Sullivan et al (2014) referring to research Markey et al (2012) indicates that with many demographic, economic, social, cultural, and environmental impacts, accelerated change defines the new rural economy. These changes simultaneously affect the nature of relationships amongst community residents and organizations. The pattern of accelerated change illuminates the uniqueness of place as critical in determining the success of rural and small town places in the new rural economy. Regulations, connectivity to the world economy, available labour supply, supportive industries and skills, quality-of-life services and amenities, natural environment, social networks and relationships, safety, and

political stability are characteristics which make the specificity of the "local" an important predictor with regards to global economic success.

In determining the concept of the peasant way of life, noticeable is an attempt to defining the conceptual complex. Among the many authors who have dealt with this issue on this occasion apostrophized (Avramović, 1928; Šanin, 1981; Cloke, 1987; Feld, 1991; Tomilson, 1995; Mitrović, 1998; Župančić, 2000; Little and Paneli, 2003; Lynck, 2005; Moren Alegret, 2006; Todorović, 2007; Clout, 2008; Andersson and Jansson, 2010; Brashares et al, 2011; Hunter et al, 2012; Clark and Gray, 2014).

According to Tönnies (2005), the village is community and the city's society. Community represents an organic will, friendship, kinship, neighborhood and family law. They are main resource of the land. Residents the mutually know each other. Present is strong impact of village and family life. An important role is played by Traditions and religion and relationships are an end unto itself. Society, in contrast to the community, characterized by egocentric will. They were developed material and spiritual goods. Feel the strong influence and presence of material calculations. Society is important contractual law and contractual obligations. It promotes a cosmopolitan life in social relations understood as a means to achieve goals. Ćirić (1991) with the right stresses "yes is and term the peasant, as compared to the earlier meaning in contemporary society, at least in urban areas and from the part and the ignorant upstart population, received a new, humiliating and offensive connotation. From that idea of the almost four - five decades marked and wher is was sublimated specific work, engineered and social status of the majority of our people, the concept has evolved in the wrong direction with the home degrading meaning. This encouraged and strengthened the process of resentment agricultural population according to this title and, to some extent, contributed to the strengthening of migration from the countryside, especially the youth, as well as its transfer to non-agricultural occupations ". Conceptually and status named the peasant dealt the statistics. So the peasant is defined as a person (household), which is engaged in agriculture on own the holding. The validity of this provision, there would be nothing to complain about, because that same numerically described through, comparative and operational. It seems that according to present circumstances emphasizes Ćirić (1991) it is the most acceptable, because it passes directly to a large extent and cultural criteria, which means that the farmers who work and live on their own the holding were and still are the most coherent keepers and carriers of the rural way of life and traditions. Ivoš (2010) social structure rural society divided into major and minor, and they towards the front the aforementioned author, have relatively permanent character and standards imposed by global society. The main rural institutions are the family (families), economic (land ownership), education (schools), professional (cooperatives), religious (church), political (municipalities) and recreation (different). The secondary institutions include marriage or divorce, regulation of distribution and sales, reading rooms, libraries, gatherings of citizens, local associations... Rural areas by Bergeron (1990), Kayser (1997), Chandivert (2006), marking the spaces in which settlements and infrastructure occupy only a small part of the total land area; in the natural environment dominated by pastures, forests, abandoned and derelict land; low population density of population; most of the population is engaged in agriculture; Agricultural land is available at relatively low cost; due to the relatively large distance from the city center and underdeveloped infrastructure, in proportion to the high and the total cost conducting business activities. Instead of short-term individual or related solutions in Europe on the importance of a so-called comprehensive or integral approach to the development of rural communities (see Livingstone, 1979; Okafor, 1980; Sallinger-McBride and Picard, 1989; Shortall and Shucksmith, 1998; Hartter and Boston, 2007; Ugboh and Tibi, 2008; Luda, 2012).

Table 1. Theoretical approaches to defining rural area

The concept of rural areas	The theoretical framework	The main features of the concept	Understanding rural area	Types of definition of rural areas
Functional approaches (from the first half of the twentieth century and further)	Positivism	Recognition the basic features and the functions of rural areas by which the they differ from urban (rural-models urban dichotomy, continuum ...)	Rural as no urban	Descriptive, socio-cultural
Socio-geographic concept of the Munich school (since 1960 and further)	Positivism, Behaviorism	Research on the influence of social groups the structure and function space, through spatially relevant processes	Rural areas are a reflection socio-economic processes and their conditioned changes	Descriptive
Political and economic approaches (from 1970 and further)	Structuralism	Investigation of the relationship between production, distribution and capital accumulation, efficiency of political measures society and economic impact relation to social, economic and geographic structure	Questioning even negation rural as analytical categories Rural as a specific geographical space (rural dimension general rules of capitalism)	Descriptive
The concept of social construction of rural areas (from 1990 and further)	Postmodernism and Post-structuralism, cultural reversal	Modern views the functioning of society on the basis of several great theories; detecting and accepting differences arising from personal experiences and perceptions	Rural as a number of different social space that overlap in the same geographical space Rural as a state of consciousness, Rural as a symbol, the meaning and material space, Post rural	Rural as a social representation

Source: Lukić, 2011.

Lukić (2011) in theoretical approaches to defining rural area separates the concepts of rural areas: functional approaches (from the first half of the twentieth century and further) which refers to the recognition of the fundamental characteristics collected and function of rural areas by which they differ from urban (models rural-urban dichotomy , continuum ...). Understanding the rural with the functional approach is based on the simplicity of rural as not urban. Socio-geographic concept of the Munich school (from 1960 and further) is based on the understanding that social group "stakeholder, holders and creators of spatial structure" and therefore is associated with a behaviorist theoretical framework. However, it should be noted how by its authors stress that "they refused, observing people as individuals," considering that the relevant physical processes important social group. Political and economic approaches (from 1970 and further) refers to research on the relationship between production, distribution and capital accumulation, the efficiency of policy measures in society and the impact of economic relations on social, economic and geographical structure. When this concept is carried out the review, even negation of rural as well as analytical categories, it is defined as a rural specific geographic area (rural dimension general rules of capitalism). The concept of social construction of rural (from 1990 and further) comprise modern understanding about the

functioning of society on the basis of several major theories; detection and acceptance of differences arising from personal experiences and perceptions. Thus, rural is understood as number of different social spaces that overlap the same geographical area or rural as well as a state of mind, it is the rural as a symbol, meaning and material space. Without going further into theoretical approaches (see Robinston, 1990; Phillips, 1998; Svendsen, 2004; Halfacree, 2006; Allmendinger, 2009), considering the definition of rural area we want to emphasize that the European Union has long been engaged in the development of its rural areas, considering them essential, inseparable factor of overall development.

According to Banini and Pollice (2015) referring to research European Commission (2011), OECD, (2011), Bryant et al (2007) emphasize that European rural areas are the result of thousands of years of historical processes that have given rise to a cultural heritage of inestimable value, which finds expression in a myriad of sensitive landscapes, which are different from place to place. The ever-increasing spread of the built environment has made rural areas more and more important, so that with over 171 million hectares of utilized agricultural area (EU-27) and some 14 million farmers (European Union, 2012) they also play a fundamental role in the protection of soils and biodiversity. Since the early 90s, in fact, the measures of the "second pillar" of the Common Agricultural Policy consider farmers, especially in marginal areas, as key social actors in the protection of the environment, landscapes and cultural traditions. The decision-making processes that see local communities as protagonists ("Leader approach") in the definition of rural development projects suited to local characteristics, and the clear identification of development needs in RDP (Rural Development Programmes) territories are among the main goals of rural development policy for the 2014-2020 period.

According to Kantar (2013) Member States EU launched a comprehensive analysis of the situation of rural areas. Namely analysis has shown that there are three standard set of problems to which can be classified in rural areas, which is the basis for the projection of their development, and that is:

1. The pressure of modern society - the syndrome that affects rural areas that are easily accessible from large cities or along main communication. Usually they are densely populated, socio-economically developed, often with intense and uncontaminated agriculture, mass construction of secondary residences, many tourist and recreational facilities, with clean industrial plants, with a developed service sector,
2. Rural degradation - basic syndrome is departure from the ground, agrarian depopulation. Some go to faraway big cities, while others migrated within the region. In both cases, agriculture remains an important activity. Agricultural holdings are small and do not provide full employment for household members. Such demographic situation accelerates the further degradation of the local rural population, reducing the level of living standards and cultural level of housing,
3. Position marginal areas - an area that is spatially difficult to approach. The best examples of marginal areas are hilly and mountainous areas.

Arnold (1997) emphasizes that the only way the integration of rural regions in the national space just their development. Therefore Kantar (2013) identifies rural development program (rural policy) in the European Union 1958 CAP - common agricultural policy of the European Economic Community begins by forming a joint fund for subsidizing agricultural products, and then the creation of structural funds, which are meant to help structural changes in agriculture towards the creation of larger production units in order to cost-effective production, 1968 - Mansholtov plan i.e. "Green Europe" - as a result of the restructuring of agriculture there was a sharp reduction in the number of farmers (5 million) and agricultural workers, followed there has been a reduced use of agricultural land (5 million hectares or 7% of total agricultural land in Europe), extreme polarization structure of OPG in which a

growing number of farms over 50 ha, and a huge number of others barely survive; mid seventies - in the directives of the European Community for the first time there are socio-economic issues of rural population. Requires the economic and social cohesion, they are adjustment of agricultural real market situation, the protection of the environment, conservation of natural resources. In the framework of the common agricultural policy provide various forms of assistance to farmers and small agricultural households, as part of regional policy; the stress is on support for local initiatives, strengthening the financial infrastructure in rural areas and investments in technical infrastructure (roads, telecommunications ...). It stimulates the creation of various forms of services, particularly for tourism. The focus in education and training is placed on the principle of "know-how", nineties year the last century - LEADER I (1991- 1994), LEADER II (1995-1999) and LEADER III (2000 - 2006) is an initiative of the European Union that links development action in the overall rural households. At this point it is necessary to specify the "Declaration of Cork" "Rural development policy must be multidisciplinary in terms of concept and multi-sector in application and clearly territorially defined. It should follow the principle of solidarity and enable diversity of the area of the European Union. Also, rural development policy should be, as far as possible, decentralized and based on partnership and cooperation between stakeholders at all levels (local, national, European). The emphasis must be on are participation and access to "from above" to activate the creativity and solidarity of rural communities ". The European Union also adopted the special accession program for the development of agriculture and rural areas in the candidate countries - SAPARD (Special Accession Program for Agriculture and Rural Development). In other cross border programs we highlight: Interred, Phare (Kantar, 2013).

Table 2. Models of rural and regional development

	Sectoral	Territorial
Exogenous	Traditional developmental policy	Regional economics
Endogenous	Traditional subsidization policy	„New rural paradigm"

Source: Just (2007).

To sum up, it is possible to distinguish between two different development policies which both take their point of departure in a sectoral thinking, namely traditional development economics with emphasis on growth stimulation through macroeconomic initiatives, and an endogenous approach focusing on the possibilities of single sectors to develop from within. Another possibility is to base development on a territorial thinking. It does not mean that rural development should be equated with regional economics, which primarily deals with applying macro economics on a given sub-national, entity. Instead it is an ambition to look at regions, rural and peripheral areas from a combined territorial and endogenous angle. The territorial are endogenous policy has invoked much attention in OECD-countries, where it has been labeled "New rural paradigm" (OECD 2006). It may be illustrated in this way (Table 2) (Just,2007).

Table 3. The new rural paradigm

	"Old" policy	New policy
Objectives	Create equality Generate income in farming Create competitiveness in farming	Competitiveness of rural areas Valorization of local assets Exploitation of unused resources
Key target sector	Agriculture	Various sectors of rural economies (tourism, manufacturing, ICT and others)

Main tools	Subsidies	Investments
Key actors	National governments Farmers	All levels of government (supra-national, national, regional, local) Various local stakeholders (public, private, NGOs)

Source: According to Just (2007) by OECD, Policy Brief, Reinventing Rural Policy, October 2006.

For regions it means that special attention is attached to regional innovation systems. For rural districts and peripheral areas it means focus on a very close relationship between the general development and policy in the region. The point of departure is to see the rural economy in its close interlink age with and dependency of the urban economy and knowledge import from other regions. At the same time attention is focused on regional positions of strength, cross sectoral collaboration, targeted investments (Table 3)(Just,2007).

The European Association for Rural Development and Village Renewal is planning on playing an active role in the maintenance and development of rural areas. With its network of partnerships, it promotes measures intended to improve quality of life, economic opportunities and leisure factors necessary for the improvement of the quality of life in view of culture, society and human relationships. It sees its tasks in: making visible and evaluating knowledge, gaining skills and special performances in the area sustainable rural and regional development, promoting knowledge transfer and encounters on a vertical level between decision- makers, multiplications and citizens and on a horizontal level between the European states, countries, regions, municipalities and villages, increasing the motivation of the rural population to contribute to decision-making processes and commit to initiatives creating their own living environment, strengthening confidence within the rural population and their identity as locally rooted Europeans with joint values, a common history and culture, and forcing perception of the meaning of rural areas and the issues of their inhabitants for society as a whole through publicity, media and politics (Rural Roadmap for a Sustainable Development of European Villages and Rural Communities, 2009).

Table 4. Change of the population in the European Union on the 1000 people per typology of urban - rural, 2010

Geographic area	Urban areas	Transitional areas	Rural areas
European Union (27)	5.2	2.2	-0.8
Belgium	8.5	7.1	7.3
Bulgaria	7.7	-8.9	-13.2
Czech Republic	10.2	-0.1	0.2
Denmark	15.0	4.8	-0.8
Germany	2.0	-1.7	-4.7
Estonia	-	1.2	-1.2
Ireland	-5.7	-	6.1
Greece	1.3	1.2	-0.7
Spain	4.3	3.5	0.7
France	5.9	4.9	5.1
Italy	5.9	5.1	2.0
Cyprus	-	1.6	-
Latvia	-5.4	-10.0	-11.6
Lithuania	-13.6	-27.6	-31.6
Luxembourg	-	19.3	-
Hungary	7.0	-1.9	-7.3
Malta	7.8	-	-
Netherlands	6.0	2.3	-2.9
Austria	7.9	3.5	-0.6
Poland	1.6	2.0	-0.7

Portugal	2.0	0.4	-3.0
Romania	2.5	-2.0	-3.6
Slovenia	6.7	1.0	-1.1
Slovakia	9.6	1.1	0.8
Finland	10.0	3.9	1.3
Sweden	17,3	7,1	1.2
United Kingdom	7,7	5,5	2.7

Source: CEPPEI (2012).

In the Member States of the European Union in 2010 number residents of urban regions grew by 5.2 ‰ per 1.000 population in the transitional / middle areas for 2.2 ‰, while is in rural areas number inhabitants reduced for 0.8 ‰. The largest increase in population in urban areas in 2010 recorded is: Sweden (17.3 ‰), Denmark (15.0 ‰), Czech Republic (10.2 ‰), Finland (10.0 ‰). Then followed Slovakia (9.6 ‰), Belgium (8.5 ‰), Austria (7.9 ‰), Malta (7.8 ‰), United Kingdom (7.7 ‰), Bulgaria (7.7 ‰), Hungary (7.0 ‰), Slovenia (6.7 ‰), the Netherlands (6.0 ‰), Italy (5.9 ‰), France (5.9 ‰), Spain (4.3 ‰), Romania (2.5 ‰), Portugal (2.0 ‰), Germany (2.0 ‰), Poland (1.6 ‰), Greece (1.3 ‰). Reducing the urban population is apparent in the following EU countries: Lithuania (-13.6 ‰), Ireland (-5.7 ‰) and Lithuania (-5.4 ‰). Rural population on one side you increased in the ten member states of the European Union, while on the other reduce in fourteen states. The largest increase in the rural population was recorded in Belgium (7.3 ‰), followed by Ireland (6.1 ‰), France (5.1 ‰), the United Kingdom (2.7 ‰), Italy (2.0 ‰) Finland (1.3 ‰), Sweden (1.2 ‰), Slovakia (0.8 ‰), Spain (0.7 ‰) and Czech Republic (0.2 ‰). The largest decrease in the rural population in the countries of the European Union was recorded in Lithuania (-31.6 ‰), Bulgaria (-13.2 ‰) and Latvia (-11.6 ‰). Followed is followed by Hungary (-7.3 ‰), Germany (-4.7 ‰), Italy (-3.6 ‰), Portugal (-3.0 ‰), the Netherlands (-2.9 ‰), Estonia (-1.2 ‰), Slovenia (-1.1 ‰), Denmark (-0.8 ‰), Poland (-0.7 ‰), Greece (-0.7 ‰) and Austria (-0.6 ‰).

Accordingly, globalization is reproduced through the rural, and the local politics of rural regions are brought to the fore in explaining the uneven geographies of the global countryside (Woods, 2007). As different rural regions stand in different relation to the global, so the capacity of rural regions to shape their own future in the context of globalization will also vary. Many rural regions will find that their opportunities are constrained to a greater or lesser degree by structural factors, from the presence of natural resources to geographical location. But opportunities commonly will exist for local agencies to make a difference, at least around the margins, and choices about how to engage with globalization can be drawn into local political debates (Wods,2013).

Table 5. Population is per the typology of urban-rural states in the European Union 2011[2]

Geographic area	Urban areas	Transitional areas	Rural areas
European Union (27)	41	35	23
Belgium	68	24	9
Bulgaria	17	45	38
Czech Republic	24	43	33
Denmark	22	36	42
Germany	43	40	17
Estonia	-	52	48

[2] Population per the typology of urban-rural in the countries of the European Union in 2011 is given in thousands in compared to the total population.

Ireland	27	-	73
Greece	47	11	43
Spain	49	38	13
France	36	36	29
Italy	36	44	20
Cyprus	-	100	-
Latvia	49	13	38
Lithuania	26	31	43
Luxembourg	-	100	-
Hungary	17	36	47
Malta	100	-	-
Netherlands	71	28	1
Austria	35	27	39
Poland	28	34	38
Portugal	49	15	36
Romania	11	44	46
Slovenia	26	31	43
Slovakia	12	38	50
Finland	27	31	43
Sweden	22	56	22
United Kingdom	71	26	3

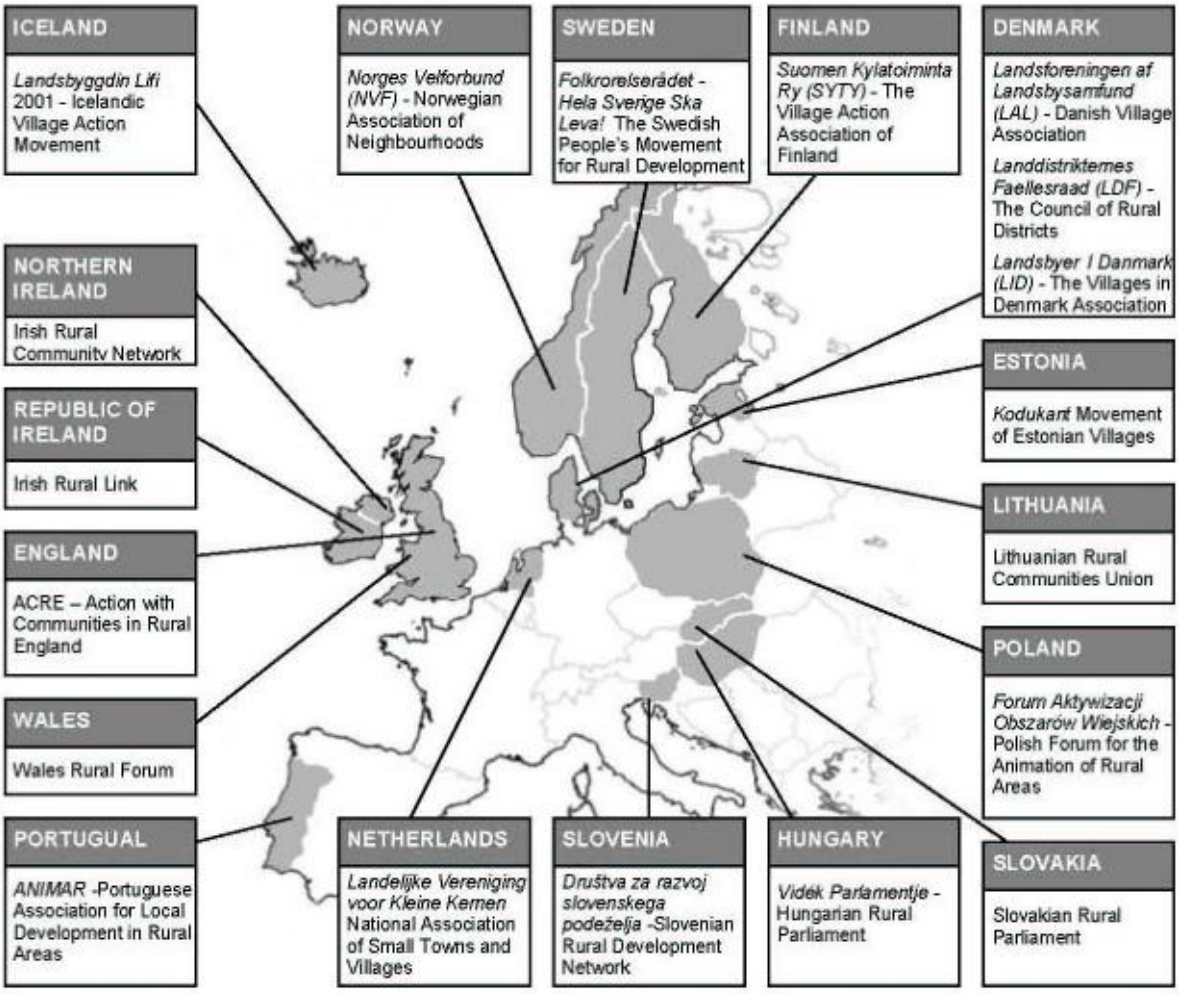
Source: CEPPEI (2012).

According to the data the Center for support and promotion of European integration (2012), the first of January 2011, 41% of the population in EU lived in urban areas, 35% in transitional / intermediate and 23% in rural areas. These data, published by Eurostat, the statistical office of the European Union, based on a new typology of the European Commission on urban / rural. This classification is conducted at the NUTS 3 regions. The regions are classified as rural, urban or transition based on analysis of population density and the total population. Thus, according to the Center for support and promotion of European integration (2012) as at 1 January 2011 the largest part of the population in the countries of the European Union who lived in urban areas was recorded in nine Member States and in particular to: Malta (100% of the population), Netherlands (71%), United Kingdom (71%), Belgium (68%), Spain (49%), Portugal (49%), Latvia (49%), Greece (47%) and Germany (43%). Luxembourg and Cyprus as a whole is considered one NUTS 3 regions and are classified as transitional areas. The largest number of population in the transitional areas in seven are countries of the European Union and in Sweden (56%), Estonia (52%), Bulgaria (45%), Romania (44%), Italy (44%), Canada (43 %) and Germany (40%). Most of the population in the countries of the European Union residing in the rural areas of the EU member states was recorded in Ireland (73%), Slovakia (50%), Estonia (48%), Hungary (47%) and Romania (46%). Then followed: Lithuania (43%), Greece (43%), Slovenia (43%), Denmark (42%), Finland (43%), Austria (39%), Poland (38%), Bulgaria (38%) , Latvia (38%), Portugal (36%), Canada (33%), France (29%), Sweden (22%), Italy (20%), Germany (17%), Spain (13%), Belgium (9%), United Kingdom (3%), Netherlands (1%). For Montenegro is particularly instructive experience of Ireland, which is in the European Economic Community entered in 1973, as a backward country. For a short time this country achieved not only an impressive economic development, but also the radical social transformation. In fact, Ireland is at the beginning of the transition, his concept of rural development conceptualized not only on agriculture but is integration of rural areas a practiced and through non-agricultural activities (Gulan, 2014).

According to Halhead (2005) asked why they founded rural movements of Europe gives the following answer, primarily due to: agricultural decline and rural economic change, increasing centralization, restructuring of local government and loss of local democracy, decline of the welfare state and reduction in public funding, cultural and economic

urbanization, rural-urban migration and imbalanced age structures and globalization of markets and effects of the EU internal market.

Figure 1. The Rural Movements of Europe



Source: Halhead (2005).

The Rural Movements of Europe, When did they start? According to Halhead (2005) C 19 Norway, 1976 Finland, 1976 Denmark, 1979 Netherlands, 1980 England, 1982 Scotland, 1989 Sweden, 1990 Wales,1990 Ireland, 1991 Northern Ireland, 1992 Estonia, 1993 Portugal, 1998 Hungary, 2000 Slovakia, 2001 Iceland,2002 Poland, 2002 Lithuania ,2003 Slovenia ,2004 Latvia 2005, Germany (Brandenburg). Networks: 1999 PREPARE Partnership, 2005 European Rural Alliance and 2009 European Rural Community Association._Halhead (2005) concludes yes raising the rural voice in Europe is needed to: express and fight for the needs of the rural areas highlight the role of rural areas as a major asset & provider for all Europeans , achieve a more ambitious approach to rural development, integrate rural development interests, gain recognition of public and politicians for rural policy which is: multi - sectoral, local - based on participation and partnership and with a major focus on human resource development; enable rural people and organizations to play a leading role in this process.

If one is considering models for managing and governing of regional and rural policy, one may observe large differences from country to country and from region to region in

decentralized countries. In the latter, the regional level often has a great deal of autonomy, with the characteristics of strategic orientation and implementation. In Germany, for example, each province decides independently which explains the large differences of various regions in terms of the rural development issues and operationalization models. The freedom given by the central government to the regions of Belgium, or Spain to the autonomous communities is slightly smaller, in that the regions must be managed by the general directives defined at the national level (Vasilevska, 2010). In the more centralized countries, national ministries are the main coordinators of regional and rural policy, as is the case in France, Greece and Portugal. There are also situations between these two extremes - so, for example, in Austria and Finland, the central government shares responsibility with regional and local authorities and allows greater financial autonomy. The political objectives reflect national, regional and cultural trends and differences, and orientation of the government. There is a wide range of goals - in the Scandinavian countries, France, Greece, Portugal and Switzerland the aim of regional policy in the field of rural development is primarily the preservation of the existing network of settlements and population, in Austria. Canada and Turkey priority is given to development and expansion of economic activities in rural areas; whereas balanced regional development and equality of living conditions set the policy in Austria and Germany, the main goal of regional policy in Japan and the United Kingdom is the development of less developed rural areas, the vitality of the economy of rural areas and creation of an attractive rural environment/landscape (Vasilevska, 2010).

Bearing in mind the experience of developed countries in tackling the economic and demographic devastation of rural areas, it is clear that the policy of sustainable rural development, in addition to support agricultural development, must be directed at supporting the development of non-farm economy (Mihajlović and Marković, 2006), which is not the case with underdeveloped or developing countries. Example Montenegro confirms it. Namely former Yugoslavia acceded to the resolution of the agrarian question, the adoption of the Law on Land Reform and Colonization of 23.07 1945 and the Law on Agricultural Land Fund People's Defense of 27.05 1953. Possession in this reforms introduced restriction land maximum, followed prohibition of all traffic land and strict control of land ownership, and at the same time to take away the or bought back land and deployed primarily in social ownership. Another law on nationalization completed the entire process of switching the industry in state hands. Law of 28.04 1948 nationalized all local and small industries, and other economic organizations and enterprises of interest to the state (Rajović and Rajović, 2010). So, according to Šarović (2013), after the end of World War II in Montenegro was established socialist order, which proclaims the abolition of private ownership as socially undesirable, family farm gets new restrictions that would accompany him for almost half a century. Agricultural holdings precisely due to the effect of limiting social context irreversibly went out or reduced their reproduction (biological social and economic) to the level of the subsistence minimum. Rajović and Rajović (2010) emphasize that the concentration of ownership in state hands, especially industrial enterprises, opened the space functioning of industrialization. In terms of the underdeveloped productive forces, then economic development strategies were based on industrialization, which had a primary task to change and transform the remnants of old relationships (unfinished capitalist industrialization, underdeveloped productive forces), scarce in all of life's potentials". As the most numerous population accounted for agricultural producers, industrialization has had on the overall objective that of individual farmers create industrial workers, foreign migrants, subcontractors, specialized commodity producers, seasonal workers etc., which is all represent a sign the change their life "(Lukić,1971). According to Kostić (1963) "abandonment agricultural properties there were so many fast, that industrialization has led to such a reduction of the population in rural areas of the country which was unknown in the

world, i.e. caused the intense are process of migration flows of rural population to the cities". On the basis of calculation which is based on the rate of population growth, it appears that the village in Montenegro in the period 1949 to 1969 deserted about 185.000 inhabitants "(Kalezić, 1976). This is a classic example of those phenomena, to be essentially invisible to many workforce that has been insufficiently or only marginally employed in agriculture in the country, the rapid development of the industry, at the outset of the development of activated and moved toward him, and that was evident in her reduction in the country and a concentration in the city (Jaćimović, 1982/83). The economic - geographical literature, migration of labor from agriculture (in rural areas) in non-agricultural activities, or to temporary work abroad are treated as a positive phenomenon. However, we cannot fully agree with this statement. Namely effects of industrialization on of Agriculture, are best reflected through reduced total agricultural population and the importance of agriculture as an analysis of the amount of capital stock. In Montenegro, immediately after the Second World War was close to 80% of the agricultural population, while in 1971 only 35 % (Kalezić, 1976).

According to Wine (1975) structure of active fixed assets experienced in Montenegro in the period from 1953 to 1973 big changes. For example, in 1953 the share of agriculture in the structure of the active fixed assets amounted to 15.5%, which in 1973 fell to just 5.6%, while the industry achieved the opposite process because its share from 9.0% in 1953 increased to 28.9% in 1973. These developments are the result of established lines of development that have been implemented through appropriate investments, whereby the amount of their agriculture was the lowest. According Jaćimović (1982/83) it was necessary to "keep in mind and the other side of the relationship between agriculture and industry; it is the dependence of non-agricultural sectors of developing agriculture. Non-agricultural sector can arise and develop only if simultaneously increasing productivity in agriculture, if relatively less workforce, or the population in agriculture to produce enough agricultural products for the growing of the population, especially for non-agricultural growing faster than total. If this happens there then comes a disproportion in the economic development that reduces its speed. Therefore, was not enough, insist on industrialization as a condition of transition of the agricultural labor force and population in non-agricultural activities, but also to the development of agriculture, which is as an important condition for the transition (transfer). Dependence of industrialization and agricultural development is not one-sided, or a parallel development of industry and agriculture development in conflict; they necessarily complement each other as the basis of rapid and balanced development of the whole economy ". An example of some European countries confirms this (Denmark). Unfortunately, in Montenegro, that was not the case.

Beginning seventies in last century was a watershed moment. That in this period start with the preservation of the village, the construction of transport power and water connections, the development of small businesses, today rural villages of Montenegro would confirm the model chosen as a representative (typical), given that the all categories figures as part of the dominant and ubiquitous phenomena and tendencies in the rural areas of those countries, which treat and feel deprived. It is important to emphasize that the rural villages of Montenegro, from the beginning nineties years the past century to the present day, have suffered a lot of negative impact because the period of isolation and transition through social and economic crisis and the absence of development strategy, stopped the human, technical and technological development of rural villages. So, according to data of the Statistical Office of Montenegro (2004) the total number of agricultural population of Montenegro in 2003 amounted to only 5.33%.

Territory of Montenegro according to Milanović et al (2010) a total of 1.216 rural settlements, of which 1948 were only 212 rural settlements with fewer than 100 inhabitants,

while according to the data of the Statistical Office of Montenegro (2004) in 2003 in the category of rural settlements to 100 residents is even 660 villages. Obviously, it is a radical change of structure of rural settlements or the depopulation of the greater part of the hilly and mountainous areas of Montenegro. On it indicating data for 2003 when the total number of rural villages (1.216), unpopulated was 28 or 2.23 %; to 10 population 100 or 7.96 %; from 10 to 30 population 175 or 13.93 %; from 30 to 50 population 123 or 9.79 %; between 50 and 100 inhabitants 234 or 18.63 %, over 100 people 596 villages or 47.45 % of the total number of rural villages in Montenegro. Šarović (2012) in their research emphasizes that Montenegrin households now live 98.949 people, who also represent the labor force households. Of the total working-age population of them 23.204 are over the age of 65 years. Least is of those that are will in progressive are households should be the highest; only 7 % of the workforce Montenegrin households are younger than 24 years. Secondly, most family households in Montenegro have between one and four members. Of the total number of households (48.824) convincingly most of those households have from 1 to 2 members, even 37.518 or 76.8%; 3 to 4 members has 9.686 (19.84%) households; 5 to 7 members, numbering 1.424 (2.93%), while households is convincingly the least of those households with more than 7 members which were once the backbone rural areas, they have only 196 or 0.43 %. Šarović (2012) points out that those family agricultural households in Montenegro when it comes to land property possess with 210.766 ha of land, of which used agricultural land 104.213 ha. If we make a comparison with the EU countries, we see that in Montenegro significantly smaller amount of utilized agricultural land in the total territorial area of the country than in most other countries (modest 16%). Proportionally and the family agricultural holdings of Montenegro is dominated exclusively small land holdings. The largest are share of (31.58 %) holding of 0.10 - < 0.50 ha of agricultural land use. Within the size structure households over half (54.07 %) of agricultural land use is from 0.10 to 1.00 ha. Average family agricultural household has 6.0 hectares of land, therefore owns 4.6 ha of agricultural land use. While the average size of are agricultural holdings of the European Union amounts to 17.5 hectares, where 43.2% of households has more than 5 hectares of land.

Our research evidence based on similar studies by UNDP (2013) stands out in the forefront of rural Montenegro following:

1. Provide services for rural population by directing the focus of service and international organizations on rural needs in health, education, social services, water supply and sewerage. Given the fact that the Montenegrin budgets at all levels are always limited, it will be necessary bring difficult decisions and to balance make concessions: whether diverting of resources from urban in rural areas increase or decrease human development and equality? This equation may be different in each individual case, but change is possible,
2. The incur agriculture rich not providing subsidies that hide the inefficient production or search for "a miraculous remedy" such as organic farming, food processing in small scale or joining in the organization of agricultural producers, but meeting the basic needs of ordinary farmers and to market well-functioning, adequately supporting services and knowledge transfer, in order to production technology of crops and breeding of animals that are already common in Western Europe could adopt in Montenegro,
3. Reduce distances within the country and to share the economic benefits of urban areas by improving the traffic system. This refers to the major routes, selective expansion of rural roads, modernization of freight vehicles in the country and to avoid overburdening cargo vehicles, and improving public transport. Bringing as many people in the position that they should be up to one hour drive to the larger urban village, by car - if you have a public transport if you do not have,

4. Pull out rural pensioners out of poverty. Economic growth will benefit the majority of the population, but as pensioners dependent on pensions, it is necessary to improve the pension system in order to those out of poverty,
5. Renew urban areas because today represented by the Black point of unemployment, medium-sized towns have the potential to become a source of driving force to the surrounding villages, offering jobs for rural population and the rural market for the company. What they need to in order to achieve this transformation: verify if they need better trained staff? Less bureaucracy? Easier access to credit? Targeted investments? Better connections to urban areas? When the resolve these problems, may be prepared find new solutions and indicators of new life in rural settlements Montenegro,
6. Accelerate EU integration by adopting EU standards and increasing access to EU markets and funds. In this way will improve the overall climate of government and business and achieve specific benefits for agriculture and rural development,
7. Beat bureaucracy and make government to work. Priority number one for the urban and rural areas of Montenegro to empower democracy, improve the functioning of government, reducing bureaucracy and abolish corruption. The number of procedures and documents should be halved in are order to achieve the EU average. Bringing the government are near you right of the rural population, using the online system and local access points.

Montenegro is committed to join the developed countries in Europe and to attempt zest the include in their development, but in that their effort she has a huge backlog in terms of economic, technological, administrative and human resources, as well as most of the former socialist countries. For its part, the European Union has developed methodology for acceptance of these countries, which has the task to prevent the destruction of the economies of these countries, but on the other hand to enable these countries, rapid development and gradually strengthening the competitiveness of their economies, and within them and their rural development (Mirković, 2010).

The role of the village must be first-rate, because its potential future main development forces rural villages Montenegro. This requires a radically new relationship between society and science for the village. It must be developed a new concept, integrated rural development, which will be based on demographic, natural, economic and socio-cultural resources. Responsible role in the design and concept of a geographical and science, its holistic approach should integrate research efforts and the results of other sciences (see Rajović and Bulatović, 2015).

Conclusions

Livelihoods perspectives offer an important lens for looking at complex rural development questions. According to Scoones (2009) as argued by Scoones and Wolmer (2003) a sustainable livelihoods approach has encouraged . . . a deeper and critical reflection. This arises in particular from looking at the consequence of development efforts from a local-level perspective, making the links from the micro-level, situated particularities of poor people's livelihoods to wider-level institutional and policy framings at district, provincial, national and even international levels. Such reflections therefore put into sharp relief the importance of complex institutional and governance arrangements, and the key relationships between livelihoods, power and politics.

But in order to have continued relevance and application, livelihoods perspectives must address more searchingly and concretely questions across the four themes highlighted

above: knowledge, politics, scale and dynamics. These are challenging agendas, both intellectually and practically. For those convinced that livelihoods perspectives must remain central to development, this is a wake-up call. The vibrant and energetic 'community of practice' of the late 1990s has taken its eye off the ball. A certain complacency, fuelled by generous funding flows, a comfortable localism and organizational inertia has meant that some of the big, emerging issues of rapid globalization, disruptive environmental change and fundamental shifts in rural economies have not been addressed. Innovative thinking and practical experimentation has not yet reshaped livelihood perspectives to meet these challenges in radically new ways (Scoones, 2009).

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The meaning of sustainability for rural development contains three widely recognized dimensions: environment, economy, and society. In more detail, the main environmental dimension includes: (1) utilization of natural capital, such as soil (land), water, and mineral resources, so that their use is reproducible over succeeding generations; (2) the improvement of biodiversity; and (3) recycling of wastes and nutrients that does not cause pollution of the biosphere, especially water resources (Nemes, 2004). In the economic dimension, emphasis is given to maintaining agricultural raw materials and services to the nonfarm population by means that provide satisfactory economic returns to land, labor, and capital, even though the definition of satisfactory is contested and is socially and politically determined. The maintenance of economically viable employment opportunities is extended to other nonfarm, land-based industries (e.g., forestry, mineral extraction, and fishing), manufacturing, and services (e.g., tourism) located in rural regions. With regard to the social dimension, sustainable development includes the long-term retention of an optimum level of population, the maintenance of an acceptable quality of life, the equitable distribution of material benefits from economic growth, and the building of capacity in the community to participate in the development process, including the use of knowledge to create new choices and options over time. In the promotion of sustainable agriculture and rural development, these interrelated environmental, economic, and social dimensions are pursued simultaneously rather than separately; the latter conform to conventional agriculture and rural development approaches and lie outside the following discussion (Nemes,2004).

Given the heterogeneity of rural areas in Montenegro, our research records based on similar studies Bogdanov (2007), Malešević (2004), Bogdanov et al (2011), indicates the following possible strategy:

1. Social strategies - are suitable for areas with distinctive trend of impoverished, areas with small local resources and without the development prospects in the long period,
2. Renewable Strategies - are suitable for areas in which it is obvious impoverishment, but with obvious local potential, primarily human,
3. Strategy accelerate deployment - suitable for areas with favorable natural resources, human and economic potential, which can be efficiently used and that need support,

4. Local development strategies - are suitable for the most developed areas with good infrastructure, which has already begun diversification towards greater rural non-farm activities.

Our research evidence based on similar studies by UNDP (2013) points out the main priorities for rural development in Montenegro:

1. Development and accreditation mechanisms that are required to manage EU funds for agriculture and rural development, including the functioning of payment agencies, management bodies and related inspection services,
2. Development IPARD measures to be ready for implementation as soon as the funds become available; a series of studies funded by the EU have already analyzed the key sectors and gave detailed suggestions on measures which can now lead the discussion, make their adaptation and adoption,
3. Using national rural development measures and capacity building for the use of EU funds and to meet certain needs that are outside the EU system of rural development,
4. It is necessary to address the specific infrastructure needs of rural areas, especially the serious shortcomings in the scarcity of water and sanitation, which still affect the rural population. Public services responsible for water, sewage and urban planning should be key partners in solving these issues,
5. The challenge of improving early childhood education in rural areas, both at home and in preschool institutions, is a challenge with which to grips to catch the national education and social services in partnership with international organizations,
6. In the rural areas that are closer to urban centers development of urban jobs and services may constitute the most effective and economical way of supporting the rural population,
7. The improvement of rural transport and communications will bring significant benefits. Given the fact that the funds for rural development is severely restricted, Montenegro should seek to incorporate rural issues and tasks in its general transport policy, education, health care and economic development,
8. With the exception of funds provided by the EU, rural development measures in Montenegro involve the transfer of resources from urban to rural areas, and would lead to a reduction in economic growth and service delivery in urban areas to enhance those in rural areas,
9. There are two long-term trends affecting on Montenegro, as well as the rest of Europe and most of the world: a constant reduction of the number of people engaged in agriculture, and some gradual movement of people from villages to towns and cities.

Accelerated Rural Development includes a wide network of institutions, organizations and social groups, in particular to show good example Leader initiatives. Permanent training of various stakeholders of rural development (both those present and those "tomorrow") is practically a given. For their "filling" should animate and the Diaspora (primarily interest-based), but also much more to attract foreign investment, especially in the form of direct investment (Malešević, 2004).

According to Kelles-Viitanen (2005) referring to research Dicken et al (2001), indicates that the when even well-informed researchers debate on the character of the present global processes, admitting that they do not yet fully understand what is happening in the global economy, how can we then expect the rural poor to understand new global trends, respond to new challenges and tap opportunities? For this reason alone, it is important for all stakeholders to work together and identify which aspects of globalization will affect the livelihoods and welfare of the rural poor and how. But we need deep analysis. We must critically analyze global processes from the point of view of indigenous and endogenous

knowledge systems, and ask whether local knowledge systems and social systems can cope with ever rapid change.

Agriculture is an important part of the overall rural economy, not only in economic but also in social and cultural terms. Agriculture also represents the most important activity of the majority of rural communities and of great importance to the way of life in rural areas. However, agriculture and farmer in modern rural community should be closely linked with other industries and occupations. Just planning a comprehensive development of small rural continent on the principles of sustainable development has been shown in the EU as a successful model of revival and progress of underdeveloped rural areas. Dominant traditional economic are branches in rural areas, in addition to agriculture, woodworking, metalworking, homemade crafts and tourism. Strategies for rural sustainable development must be based on the firm bond with tradition and all its elements. This would contribute to the creation of new employment opportunities for the local population and would significantly increase the chances of young and educated people to remain in these areas. Infrastructure development is one of the important segments of the rural policy. In addition to the economic, developed infrastructure contributes to the social aspect of life in rural areas by reducing the degree of isolation of rural areas and increasing the level of social integration (www.mojsijev.com). The modern concept of a sustainable rural development require a change in the traditional organizational and management structures and connections, which means that the state should share competence, tasks, activities and funds with a large number of important partners. One such form is precisely a public-private partnership, with the aim to promote joint action between local developments (Bogdanov et al, 2011).

In countries that have developed a policy of regional and rural development, rural development as a development priority occurs in almost all national and regional development programs, but its importance, position, and in particular development measures and means available, are very different, and apart from the institutional and systemic framework and conditions, primarily depend on: 1) the type and structure of the region, 2) regional development priorities and 3) the type and structure of rural areas. While in developed countries, particularly in the European Union, rural and regional policy is a strategic issue, in our country the problem of regional and rural development is only considered as one of the important issues of planning and management. In these considerations, scientific research and practical experience of countries in which the processes of regional and rural development and cooperation has dominated for a long time can be a valuable asset for our country, especially given the current national development trends, intentions and commitments (Vasilevska, 2010).

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CLUSTERS – A SPECIFIC FORM OF CONNECTING BUSINESS ENTITIES IN ORDER TO IMPROVE THE MARKET POSITION

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Abstract: *Clusters represent the economic base, which promotes regional development. The formation of cluster organizations is the result of real needs for the satisfaction of economic interest of theirmembers.The purpose of this paper is to promote positive changes that result from the action of clusters. By studying the specifics of the process of connecting businesses, functioning, and development of clusters, we will set guidelines for improving the business efficiency of business entities. Undertaking the measures and actions to improve business efficiency can stimulate balanced regional development. The achieved results of the joint operations of agricultural entities may be of use to regional development policy-makers, cluster management, and cluster members, but also those businesses that are in a dilemma whether to operate independently or within clusters in order to improve their position on the market.*

Keywords: clusters, regional development, business efficiency, the market, the agricultural sector

JEL classifications: R58, Q10, R11

Introduction

Permanent changes in the business environment greatly influence the behavior of market participants. Business entities can respond to changes in the environment in different ways. Modern business conditions have boosted the development of clusters as a specific typeof linking businessentities in order to increase business efficiency. In developed market economies, cluster organizations represent one of the most relevant microeconomic factors that influence the development of the industryor the region.It can be said that the balanced regional development is encouraged with the appearance and operation of clusters. Therefore, we can conclude that the cluster policy is gaining in importance with increasing regional disparities.

Clusters can be seen as a significant source of differentiation and market success, given that joint activities of business entities increase business efficiency. Geographic concentration of available capacity affects: upgrade of existing resources, improving production processes, increasing business efficiency, which ultimately results in increased market power. As a specific aspect of organizational form, clusters can contribute to the

creation of added value, improved flexibility, the development of better coordination, and confidence.

Satisfaction of economic interests of cluster organizations requires active institutional support and assistance to its members. Involving businesses, public institutions, and research institutions in clusters stresses the importance of the permanent coordination among businessentities. The achieved level of communication and coordination among the above-mentioned entities determines the potential for growth and development of cluster organizations in the future.

Connecting businesses from various industries through clustering and other forms of association is characteristic of highly developed countries. Lack of association of business entities in rural areas, especially in agriculture, is one of the causes of their insufficient competitiveness (Janković - Milić et al., 2011). The paper emphasizes the positive implications of the clustering of agricultural entities in certain regions, in terms of successful regional development and sustainable rural and agricultural development.

Theoretical basis of clustering

A cluster is a geographical proximate group of interconnected companies and associated institutions in a particular field, linked by commonalities and externalities (Porter, 1998).The economic cluster consists of vertically (shared suppliers) or horizontally (shared customers) related companies within one national economy. Geographic concentration of customers, suppliers, and competitors in a particular region promotes innovation and competitiveness (Porter, 1990). Clusters are groups of specialised enterprises – often SMEs – and other related supporting actors that cooperate closely together in a particular location. In working together SMEs can be more innovative, create more jobs and register more international trademarks and patents than they would alone (European Commission, 2014). The common field of activity, complementarities, and coherence of interests affect the expansion of clusters beyond the borders of a national economy.

At the same time, the existence of competition and cooperation is one of the specifics of the existence of the clusters (Porter, 2010). These processes are simultaneously held at different levels and among different participants. Dynamic competition and intensive cooperation are desirable for the future development of clusters. Strong interdependence of all members and faster diffusion of knowledge contribute to the realization of a synergistic effectat the level of each individual member, andthe cluster as a whole.

The task of economic policy makers is to create a positive climate for the realization of the objectives of the cluster. The objectives of the cluster organization are: (1) Establishment and development of common network of members; (2) Establishment of common strategy; (3) Facilitation of the development of innovations and introduction of new technologies; (4) Expansion of cluster and connecting with related cluster organizations (Volarev, 2010). The success of cluster organizations in meeting the goals and implementing the strategy is determined by many factors. This requires cluster management to continuously adjust thinking and align business strategy with the internal and external environment. Changes (innovations) that occur within the cluster organization, or outside of it, can trigger the development and improvement in all stages of the cluster's life cycle (Krstić et. al, 2014).

The emphasis on economic transformation and on building interregional value chains calls for a new generation of cluster policy approaches. Clusters can be key delivery instruments for national and regional smart specialization strategies, internal market, re-industrialization, and SME policy. Clusters area unique opportunity for regional policy makers and cluster actors to share experiences on how smart specialization strategies and clusters can help transform your region and drive growth (European Commission, 2014).

Cluster development is conditioned by its ability to adapt to change. Without monitoring, comparison, and control, it is not possible to avoid the vulnerability of cluster organizations in the competitive struggle. By controlling the process, activities, and outcomes, cluster organizations are increasing opportunities for improved business efficiency.

Clusters, as a specific way of connecting businesses, have a positive impact on the level of economic performance of member companies. The interest of business entities for clustering has occurred because of problems of falling behind in productivity, the need to adapt to changing conditions in the business environment, and large regional disparities.

Advantages, disadvantages and challenges of clustering

The prosperity of the European Union relies on its ability to provide SMEs and industry with a favorable business environment and customized support to unlock growth opportunities. Stimulating cross-sectoral cooperation and innovation, as well as helping SMEs to access finance, new industrial value chains, and to go international are seen as key drivers. Clusters and cluster organizations can play a key role in securing these objectives (European Commission, 2015). Clusters operate together in regional markets. 38% of European jobs are based in such regional strongholds and SME participation in clusters leads to more innovation and growth. There are about 2000 statistical clusters in Europe, of which 150 are considered to be world-class in terms of employment, size, focus, and specialization. According to the European Cluster Excellence Scoreboard, for a number of selected emerging industries and regions in the period 2010 - 2013, 33.3% of firms in clusters showed employment growth superior to 10%, as opposed to only 18.2% of firms outside clusters (European Commission, 2015).

Cost-benefit analysis is a useful analytical tool for assessing costs and benefits of cluster membership. The main advantages of cluster organizations are: cost savings of companies operating in the cluster, strengthening human capacity, higher level of specialization, better starting basis for further growth and development, dissemination of knowledge, strategic and operational flexibility, stimulating environment for innovation, collaboration, and development of competition, easier solving specific business problems, ower risk of error in business decision-making, knowledge and support framework conditions, supporting internal networking and internationalization. Cluster organizations positively affect the market position of companies, given that they increase productivity and efficiency of member companies. The literature states that cluster organization helps each of its members make progress. The main costs are reflected in vaguely defined development objectives, lack of an adequate institutional framework for the development of cluster organizations, non-harmonization ofregulatory framework with best practices, the lack of accompanying strategic documents, complex monitoring, and control of cluster performance.

The European Cluster Excellence Scoreboard Pilot Version applies the scoreboard methodology for measuring regional strength in emerging industries developed under the European Cluster Observatory to three emerging industries in the fields of creative industries, eco industries and mobile services. The pilot scoreboard is composed of three key elements: the strength of the regional business environment (framework conditions), firm strength, and effective business support services (part of cluster management excellence). According to the survey results, major challenges identified by the surveyed the cluster management organisations (CMOs): Lack of regional / national / supra-national support for financing and development of the organisation, Difficulties in assessing cluster performance (due to e.g. a lack of commonly agreed methods), Lack of involvement of cluster stake holders in strategy development and implementation, Difficulties in collaborating with other clusters, (nationally and /or internationally), Lack of private funding for the development of the

organisation and strategy implementation. Governance characteristics of the surveyed CMOs: Involvement of stakeholders in the identification of cluster strategies, Performance monitoring is based on objectives and key performance indicators, Feedback from the board and advisory committees is integrated into the cluster strategy, Representatives of regional authorities and policy makers on the board, Presence of an Advisory Committee composed of industry representatives, Representatives of investors on the board, Presence of a Scientific Advisory Committee composed representatives from academia, Representatives from other regional / national clusters on the board for boosting collaboration (Probst et. al, 2013).

Clusters in agricultural production as a chance for more intensive regional and rural development

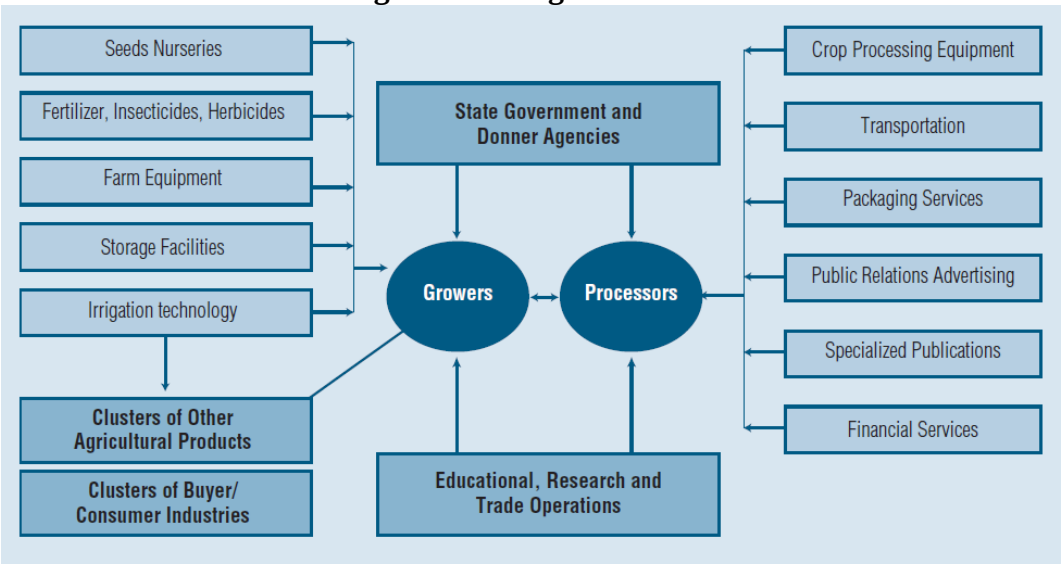
Balanced regional development is highly positioned as a goal of developed countries, and one of the common courses of action of the EU member states. In a large number ofdeveloping countries, the greatest potential for sustainable growth, which is intensely pursued, lies in the agricultural sector. In this regard, the state has to create a framework in which agriculture can contribute to balanced regional development and the development of rural areas. In this way, clusters have proved to be a good solution and one of the possible forms of regional and rural development.

Although there is plenty of research and initiatives which are related to clusters in general, very little attention has been given to clusters in the agricultural sector. The reason for this may be the very idea of clusters and tight connection with competitiveness and innovation. These two features are primarily linked to sectors of the economy that are focused on innovation as a fundamental value, such as information technology, electronics, automotive industry, and biotechnology.

Dealing with the constant growth of productivity and market pressure, agricultural sector can only through clusters cope with the prevailing trend, in order to improveits capacity in terms of innovation and competitiveness. In order to foster the competitiveness of agriculture and ensurefood security, the European Commission is committed to promoting and encouraging the creation of voluntary agricultural producer organizations. It is certain that a new form of association is slowly paving its way to the agricultural sector, where cluster type of association is recognized as a way to overcome the shortcomings of previous forms of association.

Clusters in agriculture make up a complex system, and refer to association of businesses and other institutions involved inrelated and different activities, connected by common interests in the area of procurement of inputs, product placement, development and introduction of new technology and innovation. With this in mind, agriculture clusters can be defined as a geographic concentration of interconnected small and medium-sized enterprises (SMEs) and entrepreneurs, specialized suppliers and service providers, companies in related industries, scientific and educational institutions, and government bodies and agencies in the sector of agriculture and rural development (Paraušić, Cvijanović, 2014) (Figure1). Various authors in the economic literature have come up with a large number of definitions oft he term agricultural cluster, but the common element to all of them is the geographic concentration of companies from one or related industries, as well as insisting on their mutual networking into one unit, which is characterized by relationships of trust and cooperation.

Figure 1. An Agribusiness Cluster



Source: Clusters for Competitiveness (2009), A Practical Guide & Policy Implications for Developing Cluster Initiatives, page 2

As regards the agricultural clusters, most agree that they are always a group of entities related to the specific geographical area, region, or to a specific administrative entity. Networking of entities in a specific region serves to build competitiveness at the regional level through the exploitation of its resources and predispositions. It refers to converting comparative advantages into competitive (Pejanović, 2009). In this regard, clusters recognize and favor local advantages, simplicity, and differences.

Agricultural production management and product processing is a complex process that requires daily making of important decisions. Cluster, as a long-term strategically-oriented project, greatly facilitates making the right decisions and overcoming barriers to successful development of the agricultural sector. For this reason, the clusters can become a generator of new ways of strategic thinking in the national economy, which will provide the agricultural sector with the quality, quantity, and continuity of production, and meet market and customers' demands. Therefore, agricultural clusters enable all agricultural stakeholders to achieve better business results through cooperation with individual institutions and other entities in the agribusiness sector.

The main motive of small agricultural producers to create clusters lies in their inability to compete with the increasing number of large and affiliated companies on the market, whose power allows them to dictate market conditions. Due to the present financial constraints, low production capacity and offer potential, and given the expensive and non-standardized production, insufficient orientation to innovative marketing, market research, and modern technology, the only way to improve competitiveness lies in clustering. On this basis, farmers and companies have the opportunity to, through the joint use of key resources or sources of competitiveness, make up for every thing they individually lackand prevents them from successful market appearance (Paraušić et al., 2010).

Agricultural clusters strengthen cooperation, build confidence and business links among agricultural producers, suppliers, processors, exporters, educational, scientific, and public institutions, and strengthen the competitive power of all members at the regional level and in the individual terms. Of course, all of the above leads to the growth of productivity and competitiveness of the agricultural sector, as well as rural development and increased exports of agricultural products.

As regards the agricultural clustering, it is important that agricultural producers join clusters only if they recognize their business interest, which is defined by a clear objective of the cluster itself. Cluster development has to be encouraged by the state, in terms of creating the necessary conditions, although the clustering initiative itself comes from agricultural entities. The positive side of the cluster organization is reflected in the possibility of associated farmers to influence the adoption of legislative provisions and other acts in the interests of all participants in the cluster, and the business results of the participants organized in a cluster can improve by as much as 50% (Agricultural Advisory and Support Service of Serbia, 2010).

Operation of agricultural companies within the cluster can lead to increased productivity and growth of production. Furthermore, agricultural cluster development stimulates balanced regional and rural development of a country. Increased productivity in agriculture can bring about income growth of employees in this sector and increase in the share of the primary sector in gross domestic product (Paraušić, Cvijanović, 2014). Furthermore, it leads to sustainable agricultural and rural development, which is imperative for the future of all countries. In addition, it is important to emphasize the high contribution of agricultural clustering to the development and strengthening of the innovative performance of the associated companies and regions.

In Serbia, as in other developing countries, the greatest potential for sustainable growth is in the agricultural sector. Several decades ago, Serbian agriculture recorded some attempts related to clustering, where by a number of them developed, but those were young clusters with insufficient competitive power to influence market trends. The basis for the development of clusters in Serbia lies in the ability to solve a large number of current problems in agricultural production, which continue over the years.

Important obstacles to the normal functioning of clusters in this sector, as well as in other sectors of the economy, are the following: financial sustainability, lack of full-time employees as a consequence of insufficient funding, and poor development of production capacity (Mijačić, 2011). Rural environment can certainly be a problem for the development of agricultural clusters due to the absence of favorable economic, institutional, and infrastructural prerequisites for the successful development of small and medium-sized enterprises and clusters (Paraušić, Cvijanović, 2014). Another problem, maybe the most important in the development of clusters and the whole country, is the existence of a very low level of communication and coordination among the national, regional, and local authorities (Glavaš - Trbić, 2012).

These problems could be overcome by the development of clusters, as the private sector within the cluster seeks to encourage the development of information, technology, and transport infrastructure, to cooperate with the government bodies, and to create stable professional associations, which will attract a greater number of participants and thus strengthen its position on the market, while the state should create and maintain stable micro and macroeconomic conditions within the economy. Furthermore, by attracting foreign direct investment in the vicinity of cluster centers, removing barriers to local competition, establishing standards that are conducive to innovation and acting as a buyer of cluster products and services, the state can stimulate the interest of farmers to create clusters and realize higher profits (Guide to Cluster Development, 2013).

In the agricultural sector, clusters represent an efficient instrument to enhance competitiveness and, as such, develop more and more and more, especially when it comes to a new type of agriculture – organic production. For this type of clusters, it is particularly important to focus on environmental protection, because agricultural production causes pollution, originating from artificial fertilizers and chemical plant protection products. A prerequisite for creating successful clusters dealing with the production and marketing of

organic products is the removal or mitigation of fundamental barriers to their development – change of mindset of producers, processors, exporters, and adequate government assistance (Petković et al., 2011).

By clustering in the field of organic farming, members get easier access to knowledge, experience, and skills necessary for dealing with and the maintenance of this form of agricultural production, because cluster connects directly all members of the value chain of organic agriculture at one point. At the same time, the advantage of associated organic producers lies in the ability to produce larger quantities of organic products, easier finding of buyers on the market, as well as better conditions for the marketing of products and the procurement of the necessary goods and services for production. In relation to this, there is the overcoming of problems of access to the domestic and foreign markets, and better promotion of organic, environmentally friendly, and healthier products that are of high quality.

Organic production in Serbia is still in its infancy, and there are many issues that producers face. Therefore, what is necessary is the existence of an umbrella organization, which provides the necessary information, logistics, and the possibility of better organization and association for the purpose of better marketing of products. One such organization is the Cluster of Organic Producers – South, which was established in 2013, under the short name, Organik South. The cluster includes four processors of organic food, nine primary producers, three agricultural high schools, and Center for the Development of Jablanica and Pčinja Districts.

The primary objective of this cluster is to provide all its members with the strong support for the performance on the domestic and international markets. Cluster members are participants in the project ”Support to the Production of Organic Food in Southern Serbia“, which focuses on the development of organic production, as a special opportunity for small farmers and small farms in the south of Serbia. Special focus is on the export of products to customers in Austria, who are interested in cooperation with the the project beneficiaries and the purchase of certified organic products from Serbian organic producers (Center for the Development of Jablanica and Pčinja Districts, 2013).

It is important to emphasize that the promotion of the cluster concept, i.e. association in order to create mutual benefit, increases the level of stability in operations and improves market performance. The result of the project, which aims at providing assistance to regional producers and processors in the creation of associations and connections with local associations, is an overall strengthening of the organic food sector in South Serbia. In addition, clustering increases production capacity of organic food and creates conditions for the future sustainable development of the sector and the economy in Southern Serbia in general.

Conclusions

Joint action of business entities in modern business conditions and the prevailing trends becomes imperative. Through specific connections, business entities, focusing on a common task, combine knowledge, information, and resources to become as successful in business as possible. Clustering is primarily a feature of developed countries around the world, but they are developing in transition economies as well. However, the manner in which the cluster is formed is different, although the common denominator in all the economies is the same. It is a necessity and inevitability of the process of clustering, as one of the ways to increase the competitiveness of enterprises and regions.

Clustering is a model of regional development, based on the unified functioning of the entities in the same sector and their resources, with the support of state institutions. The benefits the business entities gain from this association are reflected in the easier overcoming

of problems encountered during operations, better exchange of information, and generation of knowledge. These benefits result in increased business efficiency of small and medium-sized enterprises, support to the development of other sectors, balanced regional development, and overall progress of the region.

In Serbia, clustering has, as a successful model of development, become part of the strategic documents relating to rural, regional, business, and local economic development. Although this model of association is still relatively new in our country, it increasingly involves agriculture. Given the economic environment and very short period since the establishment of agricultural clusters in Serbia, accurate assessment of the effects of clusters is debatable, because this is a model that is designed to give long-term effects.

Based on the presented conclusions, it can be stated that the formation of clusters can improve the performance and efficiency of development of business entities. In conditions of strong competition, it can be a decisive factor in increasing market power and improving market position.

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The Relationship between Electricity Consumption and GDP in Albania, Bulgaria and Slovenia

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Abstract: *This paper investigates the causal relationship between electricity consumption and GDP in Slovenia, for the time period 1990-2010 and in Albania and Bulgaria for the time period 1980-2010. The causality is tested with the Granger causality test. But first we check whether or not the time series of GDP and electricity consumption are stationary. The augmented Dickey-Fuller (ADF) test and Phillips-Perron test are used to evaluate whether these two series have unit root.*

It can be concluded that the first differences of the two time series are stationary, i.e. they are integrated of order 1. The Johansen cointegration test shows that there is no cointegration equation for GDP and electricity consumption in these three countries. From the Granger causality test it can be concluded that there is unidirectional causality from GDP to electricity consumption for 2 and 5 years lags and a unidirectional causality from electricity consumption to GDP for 1 year lag. In the case of Albania and Slovenia the results suggest that there is no causality between electricity consumption and GDP.

Key words: Electricity consumption, economic growth, Granger causality

JEL Classification Codes : C32, Q43

Introduction

Electricity is a significant type of energy that people use constantly. It has a big part of our everyday life. Its wide use contributes to an impact in the overall economy. Hence, it is of a great importance to test the dependence between GDP as an economic variable and electricity consumption.

Examining the causality between electricity consumption and GDP describes the relationship that these two variables have. One of these four results can be obtained with testing for causality: (1) no causality; (2) unidirectional causality from electricity consumption to GDP; (3) unidirectional causality from GDP to electricity consumption and (4) bidirectional causality between electricity consumption and GDP.

An outcome where there is no causality between electricity consumption and GDP means that any variations in electricity consumption will not lead to a change in GDP, which favours the neutrality hypothesis. Unidirectional causality from electricity consumption to GDP indicates that reduction in electricity consumption will induce a drop in GDP. However, unidirectional causality from GDP to electricity consumption implies that the growth of GDP will lead to a larger demand of electricity. If there is bidirectional causality between electricity consumption and GDP, then these two variables influence each other at the same time.

Literature review

Depending on the studied countries and the time period that is analysed as well as the methodology, different results can be obtained for testing causality between electricity consumption and GDP.

The first attempt of testing causality between GNP and energy consumption was made in the paper of Kraft and Kraft (1978). The result of this paper was that over the period of 1947-1974 in the USA there is unidirectional causality running from GNP to energy consumption.

This topic has been very popular for the past few decades, so there were a number of papers concerning causality between energy consumption and GDP. Some of the most recent paper that examine causality between electricity consumption and GDP include: Altinay and Karagol (2005), Kiran and Guris (2009), Bekhet and Othman (2011), Hossain (2012) etc.

The relationship between energy consumption and GDP in Albania and Bulgaria was analized in the paper by Georgantopoulos and Tsamis (2011) „The Realationship between Energy Consumption and GDP: A Causality Analysis on Balkan Countries". This study employs annual data during the period 1970-2009. The conclusion of this paper is that in Bulgaria there is unidirectional causality from electricity consumption to GDP. This result implies that a shortage of energy may lead to a fall in GDP. For Albania the conclusion is that there is no causality between the two variables, i.e. the null hypothesis is accepted.

Because of the lack of statistical data for the period before 1990, no research has been made on this subject about Slovenia.

Data and methodology

The analysed data in this paper is: electricity consumption (EC) in kWh per capita and Gross Domestic Product (GDP) per capita in US$ in constant prices from 2005. Annual observations during the period 1980-2010 are used for Albania and Bulgaria. Because Slovenia was part of Yugoslavia until the early 1990s, there is no available data prior 1990. So the annual data for Slovenia is over the time period 1990-2010. All the data was obtained from the database of The World Bank[3]. In the analysis all the data is transformed into natural logarithms. The natural logarithm of EC per capita will be denoted by E and the natural logarithm of GDP per capita will be denoted by G.

The augmented Dickey-Fuller test is used for unit root testing in the case of Albania and Slovenia and the Philips-Perron test is used for unit root testing in the case of Bulgaria.

The Augmented Dickey-Fuller (ADF) test is based on $H_0: Y_t \; is \; not \; I(0)$ which is given by the following equation:

$$\Delta Y_t = \beta + \delta Y_{t-1} + \sum_{i=1}^{m} \alpha \Delta Y_{t-i} + \varepsilon_t \qquad (1)$$

Where β, δ and α are the parameter to be estimated, ε_t is the error term or the white noise term, t is the linear time period and m is the difference between two consecutive periods ($\Delta Y_{t-1} = Y_{t-1} - Y_{t-2}$, $\Delta Y_{t-2} = Y_{t-2} - Y_{t-3}$ etc).

The Phillips-Perron (PP) test is similar to the ADF test, but it incorporates an automatic correction to the Dickey-Fuller procedure to allow for autocorrelated residuals.

[3] http://databank.worldbank.org/data/views/variableselection/selectvariables.aspx?source=world-development-indicators

For examining the cointegration between the two variables, the Johansen cointegration test is applied. The Johansen cointegration test starts with setting a VAR model with k lags. This VAR model is given by:

$$y_t = A_1 y_{t-1} + A_2 y_{t-2} + \cdots + A_k y_{t-k} + u_t \quad (2)$$

Where, y_t is $n \times 1$, the coefficients $A_1, A_2, \ldots A_k$ are $n \times n$ and n $(n \geq 2)$ is the number of variables which are I(1).

The VAR (2) needs to be turned into a vector error correction model (VECM) of the form

$$\Delta y_t = \Pi y_{t-k} + \sum_{i=1}^{k-1} \Gamma_i \Delta y_{t-i} + u_t \quad (3)$$

where $\Pi = \left(\sum_{l=1}^{k} A_l\right) - I_n$ and $\Gamma_i = \left(\sum_{j=1}^{i} A_j\right) - I_n$.

The number of cointegration equations is determined by the rank r of the matrix Π via its eigenvalues. The rank of the matrix is equal to the number of characteristic roots (eigenvalues) which are different from zero.

The Johansen cointegration test considers two test statistics - the trace statistics and maximum eigenvalues matrix statistics, i.e.:

$$\lambda_{trace}(r) = -T \sum_{i=r+1}^{n} \ln(1 - \hat{\lambda}_i) \quad (4)$$

and

$$\lambda_{max}(r, r+1) = -T \ln\left(1 - \hat{\lambda}_{r+1}\right) \quad (5)$$

where r is the number of cointegrating vectors under the null hypothesisc, $\hat{\lambda}_i$ is the estimated value fot the ith ordered eigenvalue from the from the Π matrix. Every significantly non-zero eigenvalue indicates a significant cointegrating vector.

At the end of the analysis, the Granger causality test is used in order to examine if there exists causality between the variables. The Granger causality test assumes that the information which is in the service of predicting the variables is contained by data of the time series of those variables. The test states that, if past values of a variable Y significantly contribute to forecast the value of another variable Xt+1 then Y is said to Granger cause X.

This test consists of assessing the following regressions:

$$Y_t = \sum_{i=1}^{n} \alpha_i X_{t-i} + \sum_{j=1}^{n} \beta_j Y_{t-j} + u_{1t} \quad (6)$$

$$X_t = \sum_{i=1}^{n} \lambda_i X_{t-i} + \sum_{j=1}^{n} \delta_j Y_{t-j} + u_{2t} \quad (7)$$

We assume that u_{1t} and u_{2t} are not correlated.

Four possibilities are considered:

- If $\sum \alpha_i \neq 0$ and $\sum \delta_j = 0$, then there is an unidirectional causality from X to Y.
- If $\sum \alpha_i = 0$ and $\sum \delta_j \neq 0$, then there is an unidirectional causality from Y to X.
- Bidirectional causality exists if the sets of coefficients before X and before Y are statisticly different from zero in each of the regressions
- There is no causality if the sets of coefficients before X and Y are statisticly insignificant in each of the regressions

Results

Table 1 displays the t-statistics in levels and in first difference of the data with intercept, with intercept and trend, and with none. The Augmented Dickey Fuller test is used

in the case of Albania and Slovenia and the Phillips-Perron test is used for the data from Bulgaria. The McKinnon Critical Values are used for both tests on the basis of 5% significance level. The test statistics for both variables are not statistically significant at levels, not even at 10% level of significance. The next step is to examine the significance of the test statistic of the first difference of the variables. In that case both variables for Albania and Slovenia are statistically significant at a level of 10%. Only for Bulgaria the test statistic with intercept and trend is statistically significant at a level of 18%. Therefore, all variables are integrated of order one, i.e. they are I(1).

Table 1: Unit Root Test results

		Levels		
Country	Variable	With Intercept	With Intercept and trend	none
Albania	***E***	(0) -1,343984	(0) -1,858883	(0) 0,255178
	G	(1) -0,524310	(0) -1,858883	(0) 0,723712
Bulgaria	***E***	[0] -1,589187	[0] -1,704218	[2] 0,319941
	G	[3]-0,346884	[3] -1,206835	[3] 1,706929
Slovenia	***E***	(0) -0,768747	(0) 1,772835	(0) 1,024226
	G	(0) -0,089340	(1) -3,036988	(0) 2,053782

		1st diff.		
Country	Variable	With Intercept	With Intercept and trend	none
Albania	***E***	(0) -5,297810*	(0) -5,369008*	(0) -5,371343*
	G	(0) -3,481625*	(1) -4,219695**	(0) -3,428773*
Bulgaria	***E***	[5] -3,712970*	[5] -3,607529**	[5] -3,795599*
	G	[2] -2,928596***	[3] -2,914754****	[1] -2,719205*
Slovenia	***E***	(0) -3,622852**	(0) -3,587818***	(0) -3,424810*
	G	(2) -2,968250***	[8] -4,403651**	(0) -2,759017*

Note: * denotes significance at a level of 1%, ** significance at 5%, ***significance at 10%, **** significance at 18%, ()- Lag length obtained with SIC, []- Bandwidth (For Bulgaria the Phillips-Perron test is used. Leg length is chosen with Newey-West Bandwidthn and Bartlett kernel)

Table 2 provides the results for the Johansen cointegration test. When cointegration of the two variables is analyzed, the same result is obtained for the three countries - the variables are not cointegrated. In all three cases the conclusion is that the null hypothesis is not rejected which states that there are no cointegration equations between the two variables. This means that there is no long-term relationship between electricity consumption and GDP in these three countries (Albania, Bulgaria and Slovenia).

Table 2: Johansen Cointegration test

County	Hypothesized number of cointegration equations	Eigenvalue	Trace Statistic	Probability	Max-Eigen Statistic	Probability
Albania	**None**	0,252807	8,588706	0,4048	8,451527	0,3347
	At most 1	0,004719	0,137179	0,7111	0,137179	0,7111
Bulgaria	**None**	0,204739	6,495530	0,6369	6,414363	0,5606
	At most 1	0,002895	0,081167	0,7757	0,081167	0,7757
Slovenia	**None**	0,456599	12,24839	0,1454	11,58824	0,1271
	At most 1	0,034148	0,660151	0,4165	0,660151	0,4165

The results for the Granger Causality test are given in Table 3. The causality testing for Albania shows that there is no causality between electricity consumption and GDP. For one year lag there is unidirectional causality from electricity consumption to GDP in Bulgaria, but for 2, 3 etc. lags no causality exist in that direction. Unidirectional causality from GDP to electricity consumption exist for lags 2 and 5 for level of significance of 10% and 5%, respectively. In the case of Slovenia, no causality exist between electricity consumption and GDP and as in the case of Albania, the null hypothesis applies.

Table 3: Granger Causality Test Results

Country	Null hypothesis	Lag 1	Lag 2	Lag 3	Lag 4	Lag 5	Lag 6
Albania	**E /-> G**	1.15347	0.49846	0.43797	1.38232	1.17342	1.01509
	G /-> E	1.84167	1.90645	1.31873	2.09339	1.33255	0.96655
Bulgaria	**E /-> G**	4.60658**	2.15426	1.65014	1.22210	2.17953	2.17883
	G /-> E	0.35928	2.74452***	1.71613	1.60118	3.07659**	0.60287
Slovenia	**E /-> G**	1.75017	0.24589	0.91646	1.37774	0.89133	0.13834
	G /-> E	0.00271	0.72018	1.25053	3.09461	2.38252	0.77699

Note: ** denotes significance at 5%, ***significance at 10% and E /-> G denotes that E does not Granger cause G

Conclusions

This paper tries to examine the relationship between electricity consumption (measured in kWh) and GDP in current US dollars for three Balkan countries (i.e. Albania, Bulgaria and Slovenia). It was attempted to find the direction of the causality and four possibilities were considered as a result of the causality testing between these two variables.

The data used in this paper is annual, taken from the World Bank Database. The analyzed period for Slovenia is 1990-2010 and for Bulgaria and Albania is 1980-2010. The data for the two variables is per capita and natural logarithm is computed.

The method for causality testing was the Granger causality test, but first, the ADF and PP tests were applied. The result from the unit-root testing was that all variables are integrated of order one. Furthermore, the Johansen cointegration test was used and the outcome was that the null hypothesis of no contegration equations should not be rejected.

The empirical results for Bulgaria uncover that for lag 1 year there is unidirectional causality from electricity consumption to GDP, but for leg of 5 years there exists causality in the opposite direction. For other number of lags there is no evidence of causality between the two variables. Therefore, it can be concluded that electricity consumption in Bulgaria has an

impact on GDP only for one year period and if the number of lags if different from 1 these two variables do not influence each other significantly.

For Slovenia the results indicate that there is no causal relationship between GDP and electricity consumption. The same outcome is also obtained for Albania, i.e. the neutrality hypothesis is accepted. This implies that reducing electricity consumption does not have an effect on GDP and additionally the GDP growth does not lead to an increase of electricity consumption in Albania and Slovenia.

The final conclusion from this paper is that any policies that are introduced into managing electricity consumption in Albania, Bulgaria and Slovenia may not have significant effect on GDP growth in these countries.

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Appendex 1: GDP and electricity consumption in Albania, Bulgaria and Slovenia

	Bulgaria		Albania		Slovenia	
	EC[4]	GDP[5]	EC	GDP	EC	GDP
1980	3973,691	2217,62	1116,728	1810,483		
1981	4125,353	2318,547	1094,542	1870,348		

[4] in kWh per capita
[5] per capita (US$ in constant prices from 2005)

1982	4397,891	2365,666	1066,377	1882,093		
1983	4582,125	2440,718	1039,125	1859,739		
1984	4772,295	2517,718	985,2315	1793,034		
1985	4678,286	2585,317	767,074	1779,541		
1986	4646,261	2694,812	1357,905	1829,747		
1987	4838,62	2853,768	1101,949	1765,482		
1988	4940,518	3162,548	947,4187	1696,113		
1989	4963,179	3094,5	968,4503	1825,756		
1990	4758,732	2863,551	498,1314	1630,584	5334,905	12514,81
1991	4361,145	2647,809	376,0373	1143,836	5087,452	11393,75
1992	3735,525	2481,758	416,6113	1065,454	4943,155	10787,04
1993	3807,697	2464,604	492,7896	1177,845	4950,932	11120,23
1994	3825,387	2517,947	554,3134	1288,012	5240,16	11726,22
1995	4211,125	2601,526	612,5929	1470,838	5312,905	12150,73
1996	4350,443	2378,844	840,7554	1612,76	5365,508	12601,83
1997	3970,131	2353,987	643,2891	1452,487	5434,662	13244,34
1998	3932,402	2484,949	679,0046	1639,838	5574,706	13739,81
1999	3613,367	2548,003	1315,876	1809,551	5675,615	14461,2
2000	3673,607	2706,574	1342,835	1949,281	5777,996	15033,47
2001	3853,73	2872,957	1246,773	2097,704	6006,345	15451,05
2002	3838,485	3066,022	1459,433	2173,411	6380,952	16022,47
2003	3973,257	3253,222	1378,657	2314,466	6578,034	16482
2004	3939,001	3490,1	1691,75	2468,691	6830,705	17196,48
2005	4121,629	3733,263	1622,587	2620,821	6917,86	17854,64
2006	4311,328	3997,037	1146,695	2766,192	7123,538	18838,85
2007	4455,751	4274,643	1137,949	2941,749	7137,824	20020,84
2008	4594,279	4561,328	1510,482	3177,913	6920,244	20706,67
2009	4400,583	4332,199	1706,977	3288,434	6103,441	18877,11
2010	4476,468	4378,879	1800,871	3404,655	6521,093	19054,26

Source: The World Bank http://databank.worldbank.org/data/views/variableselection/selectvariables.aspx?source=world-development-indicators