

MONTENEGRIN GOVERNMENT SHORT TERM BOROWINGS AT THE NATIONAL MARKETS

KRATKOROČNO ZADUŽIVANJE CRNOGORSKE VLADE NA NACIONALNIM TRŽIŠTIMA

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Abstract: *In this paper interest rates borrowing of Montenegrin Government at the national money market including bank lending short term market are analyzed in the post transition period in last 10 years. Applied both T and P tests of the interest rates movement at the observed markets clearly show that these two segments of market characterized their fragmentation with very weak interrelations. The results show uncorrelated movement of short term interest rates arising from a low level of competition. As consequence, the Montenegrin short term market is underdeveloped. The problems identified suggests a need for involving new short term financial instruments, encouragement of more competitiveness through overcoming their fragmentation and, especially, much more involvement of Government and Central Bank in creating and organizing an efficient domestic financial market.*

Key words: *money market, bank lending short term market, Montenegrin Government short term borrowings, interest rates*

Sadržaj: *U ovom radu se analiziraju kamatne stope zaduživanja crnogorske Vlade na nacionalnom tržištu novca, uključujući i bankarsko tržište kratkoročnih kredita, u post tranzicionom period od poslednjih 10 godina. Primijenjeni T i P testovi na kretanja kamatnih stopa na posmatrana tržišta jasno ukazuje da ova dva segmenta tržišta karakteriše fragmentacija sa vrlo slabom međupovezanošću. Rezultati pokazuju nekorelaciju u kretanju kratkoročnih kamatnih stopa koja proizilazi iz niskog nivoa konkurencije. Kao posledica, crnogorsko kratkoročno finansijsko tržište je nerazvijeno. Identifikovani problemi sugerišu na potrebu za uvođenjem novih kratkoročnih hartija od vrijednosti, podsticanje više konkurentnosti kroz prevazilaženje fragmentisanosti i, posebno, mnogo veću involviranost Vlade i Centralne banke u kreiranju i organizovanju efikasnog domaćeg finansijskog tržišta.*

Ključne riječi: *tržište novca, tržište kratkoročnih bankarskih kreditnih kamatnih stopa, kratkoročno zaduživanje Države Crne Gore*

INTRODUCTION

Montenegro is a post transition country and it is very important its money market to be developed. The significance of the role of money market is shortly portrayed in the theoretical background. In this paper, the present situation with the historical

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changes of money and bank lending interest rates, related to the Montenegrin Government borrowing, is analyzed.

The interest rate cost of a government borrowing is very important not only for national budget, but for overall economy, knowing that this cost influence the other interest rates on loans which are given to economy. The research encompasses the level of competition and compatibility between the bank short term lending market and the money market in the case of the Government borrowing in Montenegro. Our hypothesis is that if the market is inefficient than the cost of borrowing tend to be high and costly.

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god.

Objavio je veliki broj naučnih radova u međunarodnim i domaćim naučnim i stručnim časopisima i učestvovao na međunarodnim i domaćim simpozijumima, konferencijama i naučnim skupovima. Učestvovao je u projektima i izradi studija iz oblasti finansija, i menadžmenta. Bio je mentor na magistarskim studijama i član komisije za odbranu većeg broja specijalističkih i diplomskih radova.

Theoretical background

At a fundamental level, the government bond markets are used to fund budget deficits in a non-inflationary way enhancing the effectiveness of monetary policy. In addition, many central banks use government bond markets for the conduct of monetary policy [1]. Establishing an efficient government domestic securities market is important from an overall development of a economy.² The soundness of the banking system also has important implications for development of the government securities market. Especially it is important to have a financially healthy intermediary which causes secondary market liquidity and efficiency to rise.

In bank-dominated systems, banks have been protected of competition from capital markets historically. The issuance of short-term debt that could compete with bank deposits was often limited and bond issuances by corporations were restricted [2]. In the paper of Monetary Authority of Singapore, the growth of the Singapore Government Securities (SGS) market is analyzed describing how a liquid SGS market is used to establish a robust government yield curve for the pricing and development of the domestic corporate debt market [3].

Mexico has made substantial progress in developing its domestic government bond market. The development of the domestic debt market has led to some improvement in secondary market liquidity, helping to lower the cost of financing for the government [4]. They also suggest that the wide array of public sector instruments available in the domestic market suggests that efforts to further increase consolidation across instruments could increase liquidity.

Central banks exert an enormous influence over short-term interest rates by shaping the characteristics of key interbank settlement systems and determining the conditions that equilibrate supply and demand for bank deposits at the central bank [5].

Central banks' liquidity management represents a key element not only for the process of monetary policy implementation, but also for the development of efficient money markets [4]. The most important policies include: an active participation in the money market to add and subtract liquidity on a daily basis; the implementation of an end-of-day market for funds settlement and policies to eliminate "autonomous" sources of liquidity.

² Prerequisites for it include a credible and stable government, sound fiscal and monetary policies, effective legal, tax, and regulatory infrastructure, smooth and secure settlement arrangements, and a liberalized financial system with competing intermediaries.

Importance of Money Market Development

An active money market is a prerequisite for government securities market development. A money market supports the bond market by increasing the liquidity of securities. Money market makes easier for financial institutions to cover short-term liquidity needs. It makes less risky and cheaper to warehouse government securities for on-sale to investors and to fund trading portfolios of securities. The experience developed countries supports assertion if short-term interest rates were liberalized, development of money market can go hand in hand. When a money market has materialized and the government securities market is ready to take hold, coordination with monetary policy operations becomes essential for sound market development.

“Government securities are particularly important instruments to implement indirect monetary policy operations. In most countries, these securities are the most liquid securities in the market. The central bank’s accommodation policy, which temporarily supplies reserve money to the market when changes in money market conditions are particularly tight for particular banks, influencing the development of the money market. If accommodation policy makes it easy and cheap for banks to obtain funds from the central bank, banks will transact less with each other. A money market will not readily develop under such conditions... The ability of the central bank to maintain the level of excess reserves very close to that desired by the banking system as a whole will induce individual banks to use the interbank market to fulfill their specific liquidity needs. In addition, by reducing the likelihood of a large surplus or shortage of reserves through close liquidity management, the central bank will reduce volatility of interest rates. As high volatility tends to result in one way markets, a reduction in volatility will also support further development of the interbank money market. Where government securities are already in circulation and financial markets are thin, using the same instrument for both the Treasury’s funding operations and the central bank’s monetary policy, operations can avoid market fragmentation” [7].

METHODS

The relevant data were collected from the credible sources such as the Central Bank of Montenegro and the Ministry of Finance. Data analysis covers the period of 15 years T-bills issues. The method of selling the T-Bills is auction with the competitive and non-competitive bids. We will analyze the historical trend of discount rates of T-bills, amount of its issues, bank lending interest rates and volume of commercial lending to the Government. The interdependence at the financial markets between two interest rates are examined.

Data Collected and their Comments

According to the period of maturity, the weighted annualized discount rates of T-bills are calculated by years and presented in the following table. The interest rates are given in their nominal values.

Table 1 T-Bills By Volume and Nominal Interest Rates Provided

Years/ Maturity	28 days		56 days		91 days		182 days	
	Total Volume	Weighted and Annualized	Total Volume	Weighted and Annualized	Total Volume	Weighted and Annualized	Total Volume	Weighted and Annualized

	(000€)	Interest Rates	(000€)	Interest Rates	ume (000 €)	Interest Rates	(000€)	Interest Rates
2001	15,477	6.97%						
2002	42,376	7.40%	14,662	7.69%				
2003	90,080	10.08%	48,141	8.01%				
2004	180,738	9.77%	51,282	10.96%	20,135	10.16%	4,000	9.58%
2005	31,773	4.20%	38,325	7.66%	23,330	6.84%	15,517	7.95%
2006					4,900	1.21%	7,600	1.33%
2007							1,800	0.79%
2008								
2009							84,242	3.85%
2010							104,752	3.60%
2011							122,184	2.77%
2012					8,600	4.53%	138,839	5.32%
2013					22,900	3.21%	166,809	3.46%
2014					24,928	1.55%	160,857	1.41%
2015					175,248	0.45%		
Correlation Coefficients	0.72		0.58		-0.41		-0.27	

In the first 5 years, the only 28 and 56 days Treasury bills were issued within the observed time framework from 2001 to 2015. It could be explained by a need the confidence in government securities to be restored after the previous turbulent years of political instabilities, economic crisis (high inflation) and regional war environment. 91 and 182 days T-bills were introduced in 2004. In 2008 it was not issued of any kind of T-bills. In 2015, only 91 days T-bills were issued in 2015. It is calculated that the weighted annualized average T-bills interest rate in the observed 15 years time is 4.74% and the standard deviation is 3.85%. The last row shows calculated correlation coefficients between volume of issued T-bill and its interest rates

in the related years according to the time of maturity. The figures show higher interdependence over years with the shorter term securities. The correlation coefficient with the 3 and 6 months interest rates is even negative.

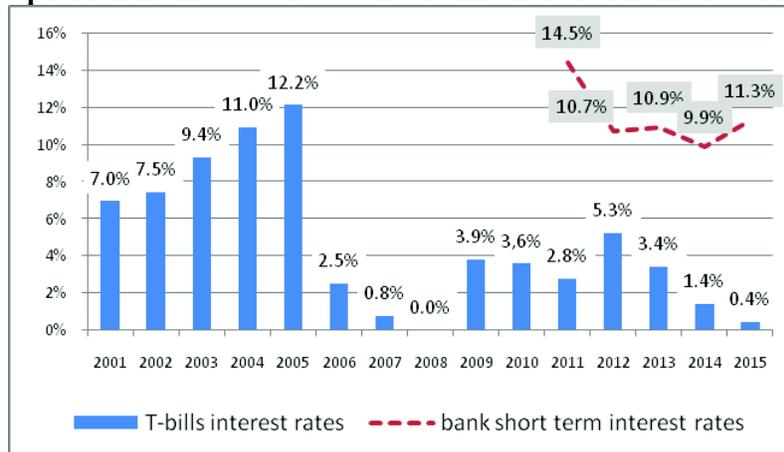
Bank short term annualized interest rates and yearly volumes of lending to the Government as well as the weighted annualized interest rates are given in the next Table.

Table 2 Bank Short Term Annualized Interest Rate and Volume of Lending to The Government

Years	Short Term Bank Lending to the Government (< 1 year)	
	Average annual interest rate	Total Volume of Bank Lending (000 €)
2011	14.47%	24,000
2012	10.72%	48,000
2013	10.94%	236,000
2014	9.88%	71,000
2015	11.32%	71,000

Because of the lack of data, the time period for the average bank interest rates are provided in the last 5 years. In spite that, the analysis does not loss in its worth. The money market interest rates of T-bill issued is considerable lower and favourable for the borrower than the bank interest rates. Therefore, the amount of bank credits borrowed by the Government is significantly less. The average 5 years bank interest rate is 11.47% and standard deviation 1.76%. The average interest rates in money market has showed less interest rates (4.74%) but higher volatility ($\sigma=3.85\%$) which could be explained by the stronger competition in that market than it was in the bank credit market. The interest rates from the both markets are shown in the next Graph in a way that the interest rates are weighted and annualized.

Graph 1 T-Bills Interest Rates and Bank Short Term Interest Rates



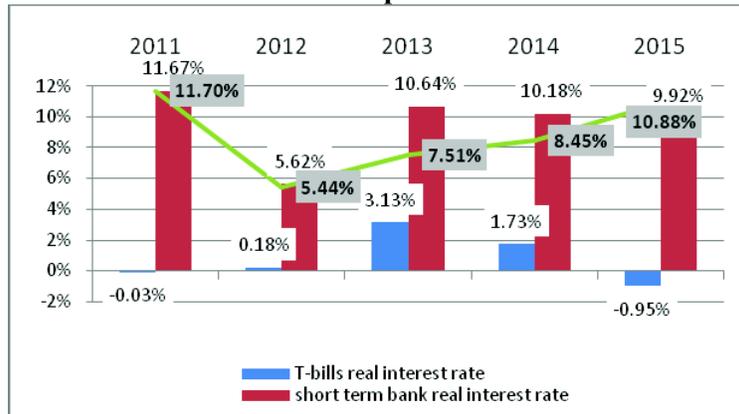
Sources: Central Bank of Montenegro³

³ http://www.cb-cg.org/index.php?mn1=statistika&mn2=statistika_kamatnih_stopa

Nominal interest rates recorded in the last 15 years of the Montenegrin money market and last 5 years of the bank short term interest rate at the banking market indicate a trend in lowering the money market discount rate of T-bills and relatively very high bank lending interest rate.

It is interesting to notice how wide the spread between these two series of data is.

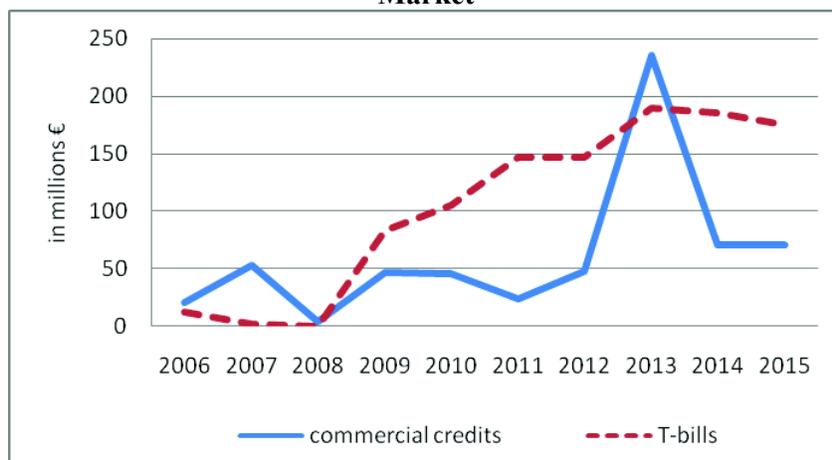
Graph 2 T-Bills Real Interest Rates, Short Term Bank Lending Real Interest Rates and Their Spreads



We applied deflator (CPI – Consumer Price Index) in order to get real interest rates and calculate the spread between the discount interest rates of T-bills and bank lending interest rates charged to the Government. Obviously, the spread is very large with upward trend in the last three years but still not reaching the level in 2011. However, spread is too much high surpassing several times the ordinary value of discount rates.

The Government has borrowed more from the Money market than from the bank commercial credit market.

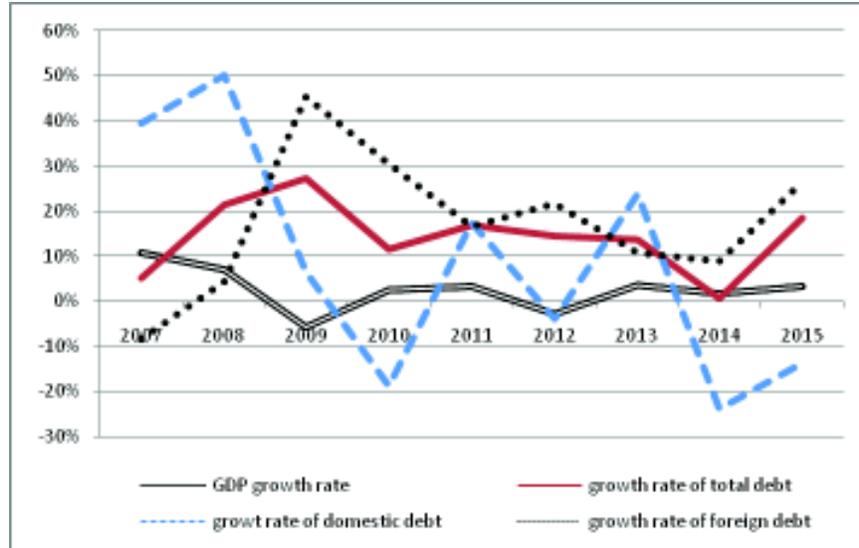
Graph 3 The Volume of Government Borrowings at the Money Market and the Bank Market



The chipper sources of short term lending, which is the Montenegrin Money market, has been more used than the bank commercial market from the whole time period observed.

The following graph represents the real GDP growth rate and growth rates of total debt and its components - foreign and domestic debts.

Graph 4 the GDP Real Growth Rate and The Growth Rates of Total Debt, Foreign and Domestic Debts



The worst relationship in term of the gap between the annual rate of total public debt growth (27.4%) and the growth of GDP (-5.7%) was recorded in 2009 while the best ratio was in 2014, when the growth of GDP (1.8%) exceeded more than triple the growth of the total public debt (0.5%). However, in the observed period the coefficient of correlation of public debt and growth rate of GDP are for the overall public debt -0.44. looking at only foreign public debt the coefficient of correlation was higher and negativ (-0.85) while domestic public debt was positive +0.55. The negative correlation suggests that the Government borrowings generally and specifically foreign debt has not contributed to the growth of the real GDP in Montenegro, while the dynamics of domestic borrowing had a positive influence. This is just tentative conclusion which pays an attention that should be considered with the further research of the impact of other factor influencing the growth of GDP.

Secondary market of money market instruments, specifically T-bills and especially bank short term credits has been in a very limited volume if any.

RESULTS

T- test and P-test has been applied to test the statistical significances of means of T-bills discount rates and bank short term lending interest rates to the Government.

t-Test: Paired Two Sample for Means

	<i>T-bills</i>	<i>Bank interest rate</i>
Mean	0.0267099	0.1146702
Variance	0.000347	0.0003099
Observations	5	5

Pearson Correlation	0.01852
Hypothesized Mean Difference	0
df	4
	-
t Stat	7.7457673
P(T<=t) one-tail	0.0007483
t Critical one-tail	2.1318468
P(T<=t) two-tail	0.0014966
t Critical two-tail	2.7764451

Student test (-7.7457673) is less than t critical value (-2.1318468) and we reject the H:0 and P (0.0014966) is less than 0.05 (probability) so we reject the H:0. T and P tests show that there are neither significant differences nor significant similarities between the volatility of the two variables. From the tests results we can conclude that there is neither significant differences nor similarities in the movement of the two observed interest rates. We could say that there has been random movement of these two short term financial market segments.

DISCUSSION

The analysis suggests that a very limited number of financial instruments has been developed in the money market generally and particularly by the government in Montenegro. Short term financial instruments of companies do not exist at all while the government short term securities covering maturities of 30 days and one year have never issued at the market. Also there is no continuity within every year in issuing governmental securities in this market. Thus, the power of reinvestments has not been utilized.

The historically lower level of discount rates of treasury bills comparing to the bank short term lending interest rates to the government stresses a need for this segment of financial market to be systematically developed in the future.

Coefficient of correlation between the volume of trade and the level of discount rate is even negative with the T-bills of 91 and 182 days maturity. This means that the money market is underdeveloped from the point of view its organisation, continuity, marketing and etc. as the low of demand and supply actually does not function.

Bank short term lending interest rates to the government are very high in every one observed year which can be partially explained by the generally very high active banks interest rates have been present in the markets. This is true as it is known that governmental borrowing is with relatively low risk. This has been resulted in a wide spread between the discount rates and bank short term lending interest rates to the government.

The costly government borrowings (including long term which is not the subject of this research) have not contributed to the growth of the real GDP, among other factors. This area could be further explored starting with the findings in this paper because the commercial debt makes 17% of the total domestic debt (average for several years).

Secondary market, although generally is far more smaller in terms of volume traded than in long term segment of financial markets, almost does not exist.

T-test and P-test clearly indicates that the two segments of short term financial market – that is money market and bank short term lending market – are totally untied and not coordinated, both representing fragmented markets of the Montenegrin financial market. This creates permanent disturbance at the Montenegrin financial market.

Due to a low level of the development of Montenegrin money market, in the father part of this discussion the role of government is shortly mentioned. Montenegrin Government needs to improve money market by providing high-quality information about debt structure, funding needs, and debt management strategies to market participants and the public at large. The development of government benchmark securities is an essential element of a well-functioning government securities market. By concentrating new issues of government securities in a relatively limited number of popular, standard maturities, governments can assist the development of liquidity in those securities and thereby lower their issuance costs. Markets, in turn, can use such liquid issues as convenient benchmarks for the pricing of a range of other financial instruments. In addition, spreading the relatively few benchmark issues across a fairly wide range of maturities—building a “benchmark yield curve”—can facilitate more accurate market pricing of financial instruments across a similar maturity spectrum. Syndication is increasingly being used in Euro-zone countries to launch new products or benchmark issues or reach new investors in the region [8]. Syndicates can be a useful alternative to auctions in the nascent stages of market development, where too few participants can easily destroy the competitive outcome of an auction procedure. The use of the Internet also opens new possibilities for the government to build a broader investor base.

Conclusion

The bank short term lending interest rates have been very costly for the Montenegrin government while in the same time the discount rates of T-bills have been relatively low. This is a consequence of the fragmented financial markets into bank credits market and money market. The inherited bank-dominated financial system in Montenegro has not been transformed in a way to provide diversified financial market with integrated money market. The money market is very underdeveloped in terms of types of short term financial instruments and organisational issues, while the banking sector could be seen as stronger competitor keeping privileged position from the past. Two markets are not coordinated, nor competitive with each other. The role of government and the Central bank is indispensable in creating an efficient financial market and, thus, there is a great responsibility for these institutions in the future.

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