

Analysis of the Serbian Capital Market¹

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ABSTRACT – This paper analyses the Serbian capital market. Its main characteristic is that it is a very narrow and depth lacking market. For analysis we used data from the Belgrade Stock Exchange (BSE), Republic of Serbia Securities Commission (SEC), and National Bank of Serbia (NBS). The crisis has negatively influenced on the capital market in Serbia. Due to this fact, the analysis was done by dividing into two sub-periods: before the crisis (2006 – 2008), and during the crisis (2009 – 2011). Results showed that turnover decreased for over 70% for both BELEX indices, while the whole capital market has notably recovered thanks to an extensive borrowing of the state. Stock market capitalization has fallen. Results of analysis showed that government debt securities dominate after the crisis on the capital market (93% in 2011), while other shares from privatization make a negligible part of the market (equity market dropped for over 10 times from 2006 to 2010). We concluded that the privatization in Serbia significantly influenced on the features and volatility of the capital market in Serbia.

KEY WORDS: capital market, frontier market, turnover, GDP, BELEX indices, liquidity

Introduction

Serbian capital market is by its characteristics categorized into the group of frontier markets (Spiedell, 2011), which is specially investigated. The privatization in Serbia significantly influenced on the features and volatility of the capital market in Serbia. The same effects of the privatization were also noticed in other transition economies (Megginson & Boutchova, 2000).

“Frontier market” is an economic term first used in 1992 by the International Finance Corporation to describe a subset of very small and illiquid emerging stock markets. Twenty years later there is no strict definition of frontier markets, though, by default, they are commonly viewed as those markets which are neither developed nor emerging. Highlighting both their opportunity and their challenge, frontier markets represent one-fifth of the world’s population, yet less than 10% of global GDP, and only about 2% of global market

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capitalization.³ Examples include the frontier markets of Serbia, Croatia, Bulgaria, Kazakhstan, Nigeria, Sri Lanka, Vietnam⁴, Venezuela, Jordan, Pakistan, and Argentina (Speidell, 2011), (Vuković & Minović, 2012).

Some of the first authors who research and analyse the frontier and emerging markets are Chuhan (1994), Rouwenhorst (1999), Bekaert & Harvey (2002, 2003), Cajueiroa & Tabak (2004), Bekaert, Harvey & Lundblad (2007), Clark (2008), Yeyati, Schmukler & Van Horen (2008), Hearn, Piesse & Strange (2009), Živković & Minović (2010), Minović & Živković (2010), Speidell (2011), Minović (2012a), Minović (2012b), and others. Sometimes progress from frontier market status to a more developed status is agonizingly slow, if it occurs at all. The upside potential of frontier equity markets has motivated many investors to consider taking positions in them, but to date, relatively few have done so. The reason stated most often for this reluctance to invest is risk (Speidell, 2011), (Vuković & Minović, 2012).

In this paper we analysed the Serbian frontier capital market. We used data for total turnover on the Serbian capital market, as well as turnover for both BELEX indices. For analysis we used data from the Belgrade Stock Exchange (BSE), Republic of Serbia Securities Commission (SEC), and National Bank of Serbia (NBS). The crisis has also negatively influenced on the capital market in Serbia. Due to this fact, the analysis was done by dividing into two sub-periods: before the crisis (2006 – 2008), and during the crisis (2009 – 2011). The capital market in this analysis is segmented on bond market and equity market, as often done in the reports (ECB, 2012). We showed that government debt securities (66,7%) are the dominant segment on the capital market in Serbia. Shares make the rest of this market (33,3%), because there weren't any corporate debt securities. The privatization in Serbia significantly influenced on the features and volatility of the capital market in Serbia. Without the analysis of the privatization it would not be possible to explain the behaviour of investors and shareholders in these countries (Vuković & Minović, 2012).

The structure of this paper is as follows: Section 1 presents introduction, Section 2 describes frontier capital market in Serbia, in Section 3 is given analysis of the turnover on the capital market in Serbia, Section 4 analysis turnover of BELEX indices on the BSE, and in Section 5 conclusion is given.

Frontier capital market in Serbia

Gross domestic product (GDP) in the Republic of Serbia declined by 3.5% in 2009, due to the impact of the global economic crisis, and the resulting slowdown in economic activity (see Table 1). GDP decline mainly due to the domestic demand. The largest negative contribution of GDP growth has given investment spending of private and public sector. Private consumption is contributed to decline in final demand, due to rising unemployment and falling purchasing power (NBS, 2009).

³ <http://blogs.cfainstitute.org/investor/2012/05/03/frontier-market-investing-inefficiency-equals-opportunity/>

⁴ <http://www.doughroller.net/investing/frontier-markets-to-boldly-go-where-few-investors-have-gone-before/>



Table 1. Growth rate of GDP in Republic of Serbia

GDP	2005	2006	2007	2008	2009	2010	2011
Growth rate (in %)	5.4	3.6	5.4	3.8	-3.5	1.0	1.6

Source: NBS (<http://www.nbs.rs/internet/cirilica/80/index.html>)

GDP growth (after 2009) was dominant due to increase in foreign demand. Exports grew faster than imports, leading to a significant reduction in the trade deficit. Such a trend has resulted in a positive contribution of net exports to GDP growth, which was higher than the negative contribution of domestic demand (NBS, 2010).

Speidell (2011) pointed out that today, frontier countries account for 21.6% of the world's population, 6% of its nominal GDP, and only 3.1% of world market capitalization. Even with this imbalance, a naive investor using cap weights as his or her guideline would still want to have 3.1% of a global portfolio in frontier markets.

Speidell (2011) showed that Serbia has a 20% weight in the MSCI Frontier Market Index, and 10% weight in the Russell Frontier Market Index (see Table 2).

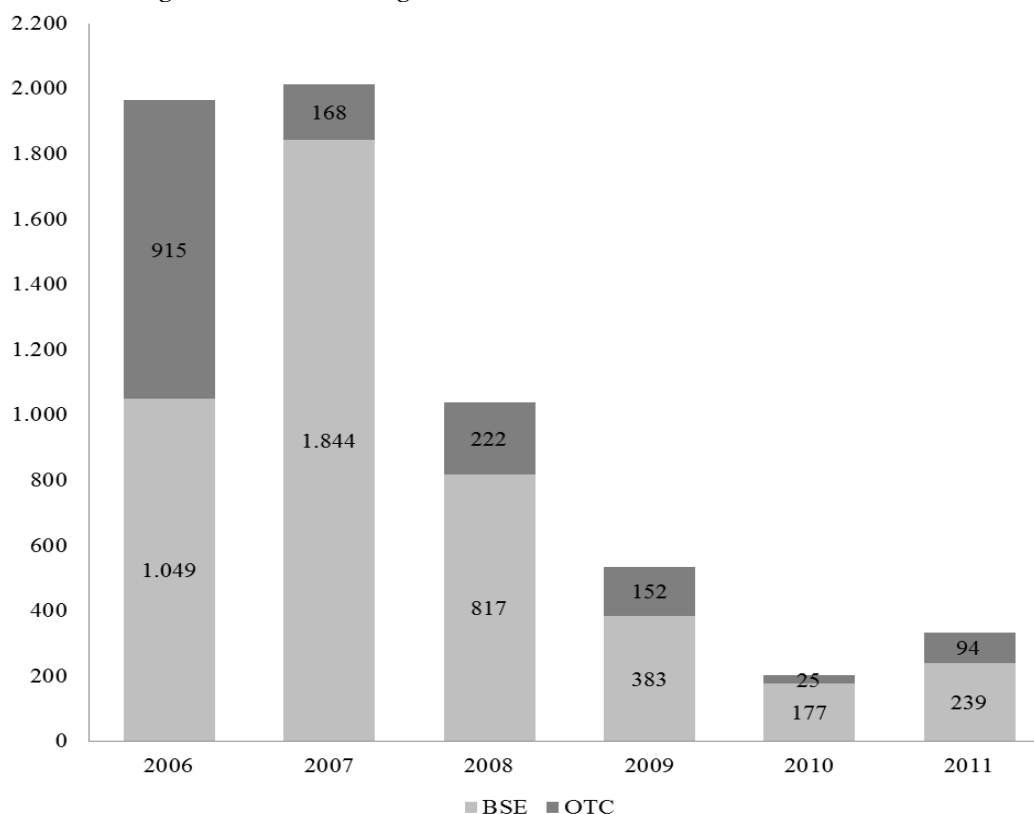
Table 2. Serbia in the MSCI, and Russell Frontier Market Indices

	Population (millions)	GDP per Capita (PPP, 2008)	GNI per Capita, Atlas Method (2008 US\$)	World Bank Market Cap (2008 \$ millions)	MSCI Frontier Market Index	Russell Frontier
Serbia	7.4	11,456	5,700	12,165	0.2	0.1

Source: Speidell (2011), page 10.

Precisely, the Serbian capital market is the Belgrade Stock Exchange (BSE), as the only organized market of this kind in the country (see Figure 1). Serbian capital market, as under developed market, faces many problems: small capitalization, small number of shares on the liquid segments of the market, appearance of some unsynchronized trading, irregular frequency of transactions, lack of transparency in the reports, lack of government regulations and so-called the invisible signs of risk (Latković & Barac, 1999), (Živković & Minović, 2010).

From its beginning, the Serbian market was not a share market but corporate market. Also, this is a one-way market, considering the supply and demand. This means that the major share sellers are individual share owners who got the shares, usually free, in the process of mass privatization. Major share buyers come from the corporate sector. The basic aim of investing was not the share yield, but taking over the companies. The usual chain of events was as the following: turnover volume and share liquidity rise when the firm is in a threat of being taken over. When taking over happens, the liquidity and volume drop, while the share price becomes inert. Trading in these transactions is in a great measure based on informer information (Živković et al., 2005), (Živković & Minović, 2010).

Figure 1. Share trading on BSE and OTC⁵ market (in million EUR)

Source: SEC (2006) & (2010).

Šoškić & Živković (2007) stated that in the Serbian market, there are no exact rules regarding available information about company, and consequently insider information has a huge influence on investor's decisions. Better regulation in this area, with increased amount of publicly available information, can reduce the information asymmetry risk. On the other side, this will lead to decreasing transactional costs and also to reduced illiquidity risk, which could bring up the level of foreign investments.

We would like to point out that there is not much papers in the capital market of the Republic of Serbia. Some of them are papers by Živković et al. (2005), Erić, Nikolić & Zdravković (2009), Živković & Minović (2010), Erić (2010), Minović (2012b), and Vuković & Minović (2012).

Erić, Nikolić & Zdravković (2009) studied the movement of the Belgrade Stock Exchange index, and compared it with the stock exchange indices in the region in order to analyze the impact of the global economic crisis. Živković & Minović (2010) explored causes for illiquidity of the Serbian capital market for the period of 2005-2009. These authors described phenomenology of emerging and frontier financial markets in detail. Their results showed that level of market liquidity was low and persistent in Serbia. Additionally, Živković & Minović (2010) showed that time-varying illiquidity and its volatility was highly unstable in this market. They identified different periods and showed that, in most cases, ups and

⁵ Over the counter market (OTC)

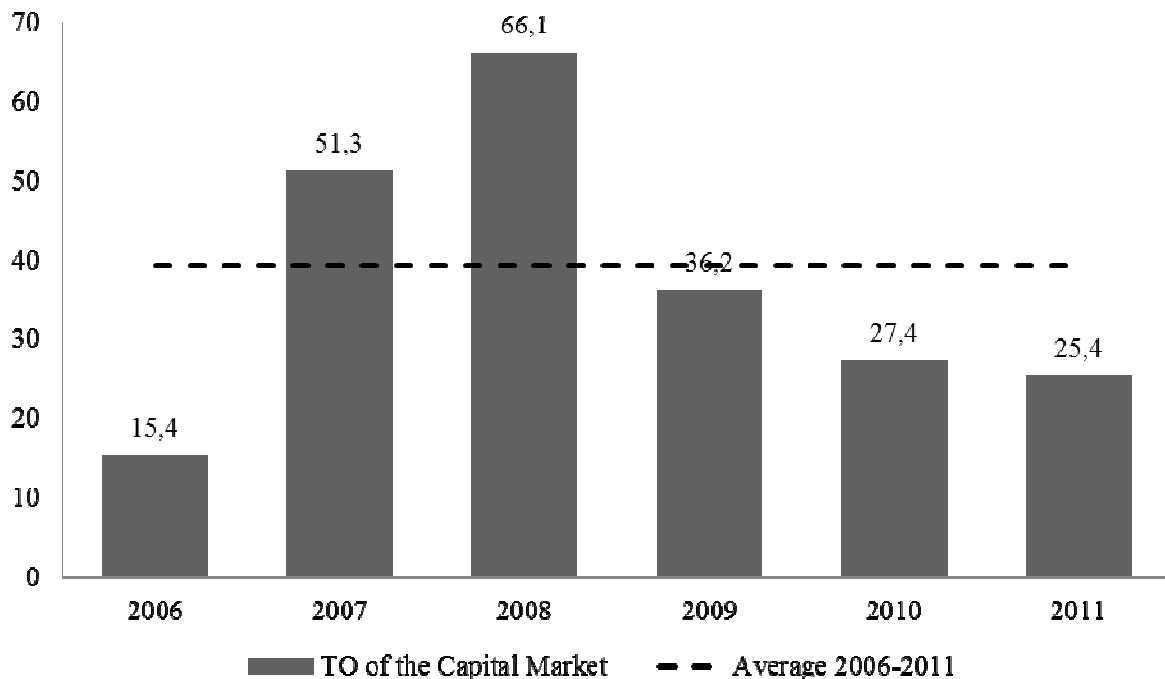


downs in foreign investors' participation leads to dramatic falls and rises in market illiquidity and its volatility. Minović (2012b) analysed equilibrium of the Serbian stock market using the standard Capital Asset Pricing Model (CAPM, by Sharpe, 1964, and Lintner, 1965). She tested this model empirically using regression analysis on the Serbian stock market. Minović's (2012b) results showed that the classic CAPM was good for developed and liquid markets, but it was not able to describe the equilibrium of the Serbian frontier market, or the process of discovering prices on this market. Minović (2012a) analysed liquidity of the Croatian frontier stock market. For her analysis she used prices of all stocks listed at the the Zagreb Stock Exchange in the period: 2005 - 2009. She showed that the level of liquidity for the Croatian market was very low. At the same time, Minović's (2012a) results suggested that the Croatian market was less illiquid than the Serbian market. She concluded that low level of liquidity was one of the key problem areas facing this small, undeveloped and frontier market. Minović's (2012a) results suggested that illiquidity was persistent in the Croatian stock market.

Turnover on the Serbian capital market

In the analysis, we used data for total turnover from annual reports of Securities Commission Republic of Serbia (SEC, www.sec.gov.rs). However, the turnover on the Serbian market was 10% less than the GDP. Figure 2 presents total turnover in billion EUR, on the capital market of Republic of Serbia.

Figure 2. Total Turnover (in billion EUR), on the BSE and the OTC market in the Republic of Serbia



Note: RSD values of turnover trading securities are translated into Euro by average exchange rate of NBS on the date of the transaction.

Source: SEC (2006) & (2010).

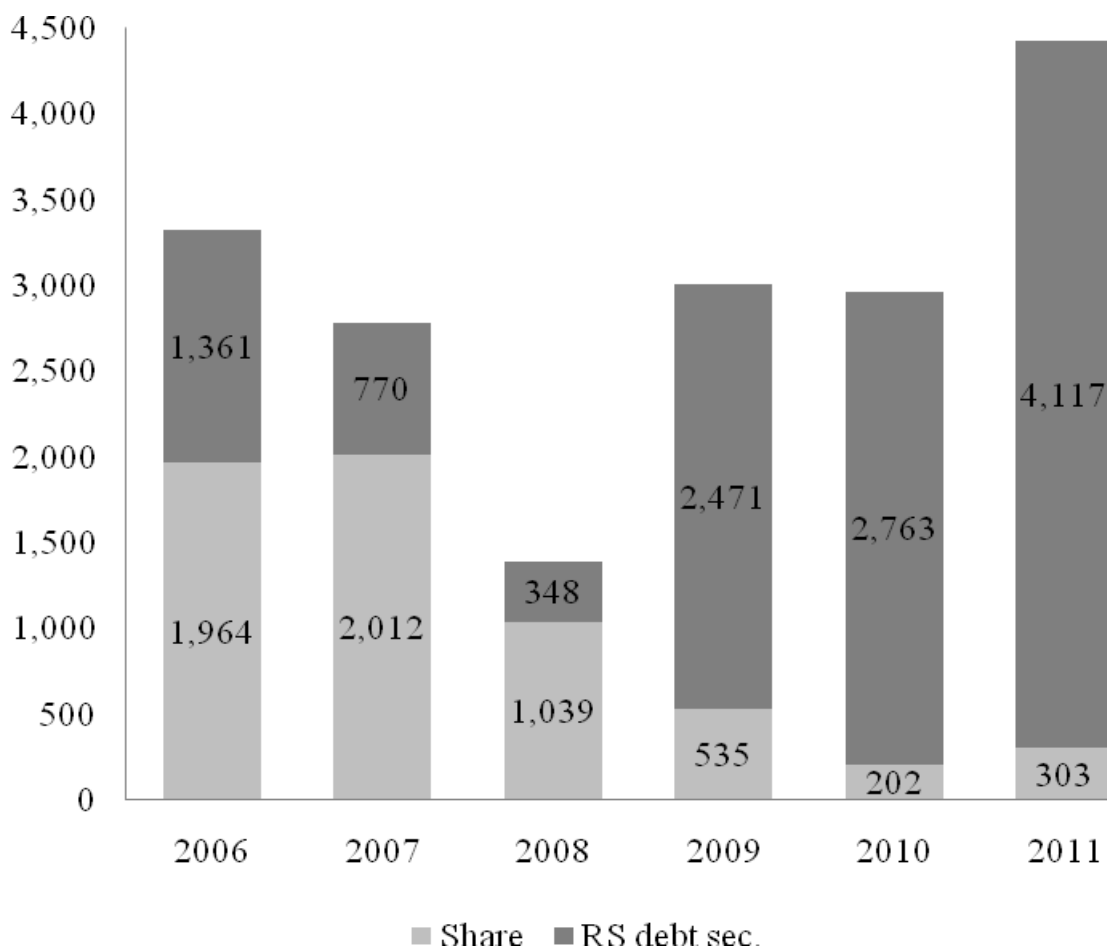


Thus, the annual turnover of securities increased from 7.4 billion EUR (in 2005) to 16.6 billion EUR (in 2006), then reached 51.3 billion EUR (in 2007), and 66.1 billion EUR (in 2008). In the post crisis years total annual turnover of the securities declined to 36.2 billion EUR (in 2009), and 27.4 billion EUR (in 2010). The average volume, in 2009 and in 2010, on the Serbian capital market has decreased by more than 55% than the average volume in the period: 2005-2008.

Figure 3 shows the movement of the turnover on the Serbian market. Alongside the total turnover, there is also the turnover on equity and bond markets. Looking at this, one can notice not only the dynamics in change, but also some structural changes (Vuković & Minović, 2012).

Vuković & Minović (2012) showed that turnover movement by years was very unusual: before the crisis it dropped very fast, then it was almost faster recovery during the crisis, so the record level was achieved last year (4.42 billion EUR) (see Figure 3).

Figure 3. Securities trading (in million EUR) without NBS securities on the Serbian Capital Market



Source: SEC (2006) & (2010); Vuković & Minović (2012).

Vuković & Minović (2012) pointed out that the total turnover covers up a key structural change: market dynamics was determined by the equity market before the crisis, and after it



by the bond market. Consequently, the share of debt securities market was increased from 20% in 2008 to predominant 93% in 2011. They said that this dramatic fall of equity market was also illustrated by the data that the total turnover over the last three years was only 1.04 billion EUR.

Bond market was entirely consisted of government debt securities. State borrowing on the capital market explosively rose – the turnover of government bonds from 2008 to 2011 was increased for 12 times. Thanks to this, the capital market not only recovered, but also significantly rose (for 1/3 compared to 2006 and 3.2 times compared to 2008). By this, there was no squeezing of corporate bonds, because they were not issued, despite the projections (Jefferson Institute, 2005) (Vuković & Minović, 2012).

Equity market dropped for almost 10 times from 2006 to 2010. The primary cause of market fall was not the global financial crisis⁶, but the nature of the shares issued with the purpose of privatization. Privatizations have dramatically increased the number of shareholders; large numbers of shareholder are not a stable ownership structure (Megginson & Boutchova, 2000). It is not surprising why it came to the withdrawal of the attractive (liquid) shares from the turnover after the end of the taking over process⁷ of the privatized companies, i.e. concentration (Živković, 2008). At the end, it could be seen that the expected rapid growth of equity markets (Lieberman & Kirkness, 1998) was not sustainable for a long-term period after the privatization (Vuković & Minović, 2012).

Underdevelopment of the domestic capital market is also shown by the information that the total turnover was below 10% GDP (NBS, 2012a). A predominant share trading was done in the BSE, while the rest was in the OTC (SEC, 2012). A small equity market could not significantly encourage the economic growth in Serbia, which is still facing the transition problems. Namely, GDP has been noticeably lower during the previous years than in 1989 (EBRD, 2011), (Vuković & Minović, 2012).

Vuković & Minović (2012) showed that despite a small volume turnover there was no significant reduce in market capitalization. By the BSE data, stock market capitalization was 8.67 billion EUR in 2008, and 7.43 billion EUR in 2011. These authors said that fall in capitalization for 14% could be explained only by reserved shareholders, where many of them were waiting for the market recovery to issue the sale orders. From 2006 to 2010, there was reducing of foreign investors' participation in trading with all the securities in the BSE (from 48% to 33%, respectively).

Turnover of BELEX⁸ indices

The Belgrade Stock Exchange was the first re-established stock exchange after the Second World War in East Europe (1989). Nevertheless, up until early 2002, it existed as an organization without normal rules of the game. Only during that year the market began to operate in a more or less standard manner. The main classes of assets traded on Serbian

⁶ Most of other European frontier emerging stock markets showed a great resilience to the adverse effects of the financial crisis (Nikkenen et al., 2011).

⁷ Therefore, the turnover on equity market was the largest in the period 2002 – 2004 (Privatization Agency, 2005).

⁸ The Belgrade Stock Exchange, Serbia



market are shares issued as a result of a process of insider privatization model (Živković et al. 2005), (Živković & Minović, 2010).

The Belgrade Stock Exchange has calculated and published the index *BELEXline* since April 2, 2007, as a benchmark for monitoring broad market movements (<http://www.belex.rs>). *BELEXline* index is descriptive, in the statistical sense, and not investible. The index weighting is based on market capitalization. *BELEX15* is a free-float market capitalization weighted price index, which follows the movements of the 15 most liquid shares traded by the continuous method and fulfilling criteria for inclusion in the index basket (<http://www.belex.rs>) (Minović & Živković, 2010).

We use data for the turnover of both BELEX indices from the Belgrade Stock Exchange (BSE) for the period: October, 2005 – January, 2010. In the Table 3 is the change of turnover for both BELEX indices that ensued by the world economic crisis. This table shows that the turnover of the both BELEX indices fell for more than 70% from the other half of 2008 to the end of 2009.

Table 3. The average value of the daily turnover expressed in RSD for BELEX indices, before and during the crisis, and its relative change

Turnover	Average	3.10.2005- 12.9.2008	15.9.2008-31.12.2009.	Relative change
<i>BELEXline</i>	1,949,045	2,508,482	702,108	-72.0%
<i>BELEX15</i>	8,777,022	11,221,731	3,327,972	-70.3%

Source: BSE & author's calculation; Vuković & Minović (2012).

Despite the economic crisis, the reason for the decrease in total turnover, and in turnover of BELEX indices is reduction in the number of shares due to the withdrawal of attractive (liquid) stocks from the market, after the completion of the takeover process, or concentration (Živković, 2008).

In the crisis conditions, it is obvious that the lack of trust in the mechanism of publishing the fair value of the financial assets, caused a fall in the turnover and at the same time a fall in market liquidity and massive withdrawal of foreign investors (see Živković & Minović, 2010).

The investors, especially retail investors, have the expectation that they can be expropriated by the management or more informed investors. They also have relatively low disposable income to invest in the stock market and limited resource to obtain information (Zhang, 2010). He pointed out that all these factors result in the on average low trading activity in the emerging markets (Minović, 2011).

Erić (2010) told that revenues from privatization, grants and foreign direct investments have declined, some even dried up with the increase of crisis. Therefore, there is a slowdown in Serbian economic growth. This author pointed out that the development of the Serbian capital market is an extremely important issue and involves a very serious and responsible approach. There are no new legal regulations, the development of institutions is slow, there are no new instruments and the turnover of the existing instruments has been reduced. All these facts must be understood as an important warning (Erić, 2010), (Minović, 2011).



Redžepagić & Richet (2008) pointed out that the transformation of the Western Balkan countries economies into market economies could not have taken place without the assistance of the foreign capital. These authors told that the Western Balkan region has been transformed into a marketplace with dynamic growth, attracting a significant amount of Foreign Direct Investments (FDI). FDI in the Western Balkans are mostly concentrated in the service sector (banks, telecommunications, insurance) in non-tradable inward oriented sectors (constructions, real-estate) (Redžepagić & Richet, 2008), (Minović, 2011).

Conclusion

The capital market of the Republic of Serbia lacks depth, it is small illiquid market in transition. There is not much papers in analyses of the Serbian capital market. This paper contributes to this field of research. The paper analysed the Serbian frontier capital market. We used data from the Belgrade Stock Exchange (BSE), Republic of Serbia Securities Commission (SEC), and National Bank of Serbia (NBS). In analysis, we showed that government debt securities (67%) were the dominant segment on this capital market in the observed period (2006-2011). Our results showed that shares made the rest of this market (33%), because there weren't any corporate debt securities. In crises period (2011) government debt securities dominate on the capital market with 93%. Other shares from privatization process make a negligible part of the Serbian market. So, the privatization process in Serbia significantly influenced on the features and volatility of this market. Our results showed that the turnover decreased for over 70% for both BELEX indices, in this period (crises). However, market capitalization was not significantly reduced and it was approximately 33% of the GDP. Thus, the Serbian equity market dropped for over 10 times from 2006 to 2010.

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Analiza srpskog tržišta kapitala

REZIME – Ovaj rad analizira srpsko tržište kapitala. Glavna karakteristika ovog tržišta je da je ono malo i izrazito plitko tržište. Za analizu smo koristili podatke sa Beogradske berze (BB), Komisije za hartije od vrednosti Republike Srbije (KHVRS) i Narodne banke Srbije (NBS). Zapazili smo da je kriza negativno uticala na tržište kapitala u Srbiji. Zbog ove činjenice, našu analizu smo podelili u dva pod-perioda: pre krize (2006 – 2008), i za vreme krize (2009 – 2011). Naši rezultati su pokazali da je promet opao za preko 70% za oba BELEX indeksa, dok je na celom tržištu kapitala zabeležen oporavak zahvaljujući ekstenzivnom zaduživanju države. Tržišna kapitalizacija akcija je opala. Rezultati analize su pokazali da državne dužničke hartije od vrednosti dominiraju posle krize na tržištu kapitala (93% u 2011), dok druge akcije iz privatizacije čine neznatan deo tržišta (tržište akcija je opalo 10 puta od 2006 do 2010). Mi smo zaključili da je privatizacija u Srbiji značajno uticala na osobine i volatilnost srpskog tržišta kapitala.

KLJUČNE REČI: tržište kapitala, granično tržište, promet, BDP, BELEX indeksi, likvidnost.

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