

# BENEFIT ANALYSIS OF A DEVELOPING MARKETS STOCK EXCHANGE MERGERS: CASE OF A BORSA ISTANBUL AND SARAJEVO STOCK EXCHANGE

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**Abstract:** *Whether due to mentality or the lack of investment 'culture', but people in the Balkans have certain repulsion towards investing in financial instruments offered by the local exchanges. Based on the public opinion one can conclude that most of the people are reluctant to invest in the financial instruments because they can't rely on the trustworthiness and credibility of the local exchanges, due to corruption scandals, misconduct and wrongdoings that happened in the recent history. Since its inception, Sarajevo Stock Exchange has been suffering from extremely low volume and poor investment liquidity that in the end resulted with choppiness and overall instability in the market. Turkey's main stock exchange, Borsa Istanbul, which is 80 times larger than SASE, has openly expressed interest in direct cooperation with Sarajevo Stock Exchange and that strategic move can certainly reduce or even eliminate problems local investors face.*

*This study examines the effect of benefits and costs of the cooperation between Borsa Istanbul and Sarajevo Stock Exchange (SASE). Multiple facets of the benefits and costs are examined and their effect on the macro and micro scale. Macro effects of the raising stake of Borsa Istanbul in SASE include effects on government, municipality and overall economic level, while micro effect is the direct effect to the 'end-consumer', a small investor.*

*The secondary data will be used in analysis of benefits to costs with the side by side comparison and eventual derivation of the Benefit/Cost ratio (BCR) that will test the hypothesis that benefits highly outweigh the costs in this cooperation.*

*The research shows that raising the stake of Borsa Istanbul in SASE will bring a new level of professionalism and trust in a corruption and unprofessionalism ridden SASE. In addition Borsa Istanbul will open new market horizons to investors from Bosnia and as an outcome we should see and increase in market liquidity, trading volume and even the BDP of both countries.*

**Keywords:** *Emerging stock markets, cross listing, stock market merger*

**JEL Classification:** *F15, F62, G15, G24*

## **Introduction**

At its inception in late 90's, Sarajevo Stock Exchange (SASE) has been showing signs of prosperity and acceptance in the investors' circles. However, due to ample irregularities, corruption scandals and an overall lethargy in trading volume, SASE has been slowing down since early 2000's. In the recent years stock exchange unions became the trend in an emerging markets, which is a result of globalization and deregulation on the world level. This process started in late 1990's following the process

of converting the stock exchanges from nonprofit, usually member owned organizations into for profit organizations that are owned by the state and corporations. In late 1990's European stock exchanges experienced significant changes such as several mergers and acquisitions, changes in trading systems and ownership structures, and the most significant increased number of quoted companies. One of the most famous mergers happened in 2000 when Belgian, French, Dutch and Portuguese exchanges have merged. From these four stock exchanges Euronext was created. In this way these four exchanges have increased their market share and became competitive to the European largest stock exchange, London Stock Exchange. Stock exchange mergers have various effects among which is market efficiency as the most important one. Studies have shown that the merger outcomes depend on the size of the stock exchange. This implies that the degree of market efficiency is higher for the merger between small stock exchanges because the smaller the stock exchange, higher the growth potential. However, there are certain issues that should be considered such as regulatory issue. Regulations can be internal, that require compliance with rules of stock exchange, or external that require compliance with the rules of regulatory body on state or international level.

Following or better yet lagging on these global trends, Borsa Istanbul Stock Exchange (BIST), which is Turkey's only exchange, in 2011 has acquired 5% of Sarajevo Stock Exchange (SASE) which is owned by Bosnian brokerage houses. In January 2015 it bought additional shares and increased its stake to more than 30%. The purpose of this paper is to explain the possible benefits of the Borsa Istanbul stake in Sarajevo Stock exchange.

### **Literature Review**

According to the research of Prof. Dr. Ulf Nielsen (University of California), the main benefit of stock exchange merger is the stock liquidity that follows the merger. Simply said, there are more market participants and more potential investors. There is also a smaller gap or a spread between bid and ask which is again the result of the liquidity and more participants competing on the exchange. There are always investors willing to buy the security for a given price and issuer or dealer willing to sell the security for that price. Market is also becoming more efficient due to lower information and other non-monetary transactions cost. Liquidity of the security is measured by turnover. Turnover represents number of shares that are traded relative to the number of shares outstanding. If the merger is international, meaning that the stock exchanges are located in two different countries, it increases the investor's base. Stocks are accessible to the investors in both countries. Companies benefit from listing on both, domestic and foreign market. Following the increased trading volume, exchanges should increase their investment in new technologies that have the ability to satisfy the demands of sophisticated investors (Philips, Faseruk, Glew, 2014). Thanks to the increased volume the stock exchanges will experience the economies of scale, and the cost of the investment will spread over the larger volume of financial products. Furthermore internationally diversified market is likely to introduce new financial and trading instruments to the stock exchanges.

Besides the liquidity and capital flow, market efficiency is the most important outcome of the stock exchange merger. Degree of market efficiency depends of the country's level of development, size, geographical diversification and industrial diversification (Charles, Darne, Kim, Redor, 2014). As a result of the increased efficiency the average trading fees decreases, the bid-ask spread also decreases, trading volume increases and the volatility of large cap securities decreases. However, the merger does not

affect all stock markets in the same way as it was mentioned before. Efficient market hypothesis (Samuelson, 1965), states that price fully reflects all available all relevant information. In the inefficient market further prices are highly unpredictable. Market efficiency is especially an issue in the developing markets. So, the fact that exchange merger contributes to the market efficiency lead us to the conclusion that the merger has higher impact on the developing market than on the already developed and efficient market.

Stock market mergers and acquisitions contribute to the decreasing costs of a transaction through the economies of scale that will attract new investors to participate in new stock exchange markets or platforms with higher trading volume and much better liquidity (McAndrews and Stefanadis, 2002). Stock exchange mergers will also improve liquidity with increasing trading volume but decreasing transaction costs (Neilsson, 2009). Many companies may benefit from alliances because of better price efficiency when new information becomes more available (Werner and Kleidon, 1996). There are many factors that affect the stock exchange success. Some of them include financial regulation quality, corporate structure for stock exchange demutualization and cross-membership agreement (Dorodnykh, 2013). A trading amount influences much the success of a stock market acquisition or merger, a greater stock exchange or some with a larger number of domestic firms could indicate maybe less success (Dorodnykh, 2013; 2014). On the other side, lower stock exchange participation could improve performance, and also, provide some credibility as well as reliability for higher stock exchange partners (Maciulis et al., 2007; Hasan et al., 2012). The trading with less volume may also experience lower integration - it's happened because of complex financial regulations as well as restrictions on foreign investors. Also, geo distances or levels of merger do not necessarily translate into a raising in stock exchange interdependence that maybe will improve stock exchange performance (Neilsson, 2007). Some bigger companies may obtain higher liquidity or trading volume from the stock exchange mergers, and can reduce costs of the transaction to improve market efficiency (Neilsson, 2009).

### ***Hypothesis and Methodology***

Given the introduction an organically derived hypothesis emerges:

"The cooperation and a partial merger of SASE and Borsa Istanbul is highly beneficial to all stakeholders in each market – from investors, over companies in the market and both countries' governments"

Since the full scope of the merger and its benefits hasn't happen as of yet, this research with this hypothesis will basically serve as a base starting point of the future researches, once the entire program materializes and once the measurable data becomes available.

The methodology used in this research is of a hybrid qualitative nature. This paper will have a descriptive research design with prediction based narratology. Since there is a very small amount of primary and secondary data on this topic, the research will mainly focus on the possible outcomes of the cooperation between two exchanges and the best case scenario analysis that could definitely be a starting point for the future researches on this particular topic.

**Data Analysis and Discussion**

As previously said, Sarajevo stock exchange suffers from a chronic condition of a very low trading volume, high instability and a persistent choppiness in the market. At its inception SASE has established the first market index called SASX10 which is comprised of 10 largest companies by the market capitalization (table 1).

**Table 1:** List of companies in SASX-10

| <b>SASX-10</b> |                                     |           |
|----------------|-------------------------------------|-----------|
| Chart          | Data                                | Members   |
| Symbol         | Description                         | Weight    |
| BHTSR          | BH Telecom d.d. Sarajevo            | 2.511.953 |
| BSNLR          | Bosnalijek d.d. Sarajevo            | 3.191.734 |
| ENISR          | Energoinvest d.d. Sarajevo          | 3.869.787 |
| ENKTRK2        | Enker dd Tešanj                     | 180.511   |
| FDSSR          | Fabrika duhana Sarajevo dd Sarajevo | 770.234   |
| IKBZRK2        | IK Banka dd Zenica                  | 225.845   |
| JPEMR          | JP Elektroprivreda HZHB Mostar      | 735.356   |
| JPESR          | JP Elektroprivreda BIH dd Sarajevo  | 2.541.259 |
| SOSOR          | Sarajevo osiguranje dd Sarajevo     | 1.135.781 |
| TCMKR          | Tvornica cementa Kakanj dd Kakanj   | 637.306   |

Source: [www.sase.ba](http://www.sase.ba)

Combined, those 10 companies have an average share price of 22.46BAM and a 14,386,000 shares for a grand total of BAM 323million. (table 2).

**Table 2:** SASX-10 companies and respective prices and shares outstanding

| <b>SASX-10 companies</b>        | <b>price</b> | <b>shares</b>     |
|---------------------------------|--------------|-------------------|
| <b>BH TELECOM</b>               | 16.25        | 63,500,000        |
| <b>Bosnalijek</b>               | 12.99        | 7,500,000         |
| <b>Energoinvest</b>             | 1.60         | 17,500,000        |
| <b>Enker</b>                    | 5.51         | 600,000           |
| <b>FDS</b>                      | 50.00        | 1,300,000         |
| <b>IK Bank</b>                  | 59.00        | 464,000           |
| <b>Elektroprivreda Mostar</b>   | 33.03        | 7,361,000         |
| <b>Elektroprivreda Sarajevo</b> | 17.18        | 31,500,000        |
| <b>Sarajevo Osiguranje</b>      | 6.03         | 4,635,000         |
| <b>Tvornica Cementa Kakanj</b>  | 23.00        | 9,500,000         |
| <b>Average</b>                  | <b>22.46</b> | <b>14,386,000</b> |

Source: Author's analysis

For the purposes of this research the focus will be on the above listed companies and the benefits of the stock market mergers will be pertaining to those 10 companies. The benefits of the mergers between stock markets and especially when the emerging

markets are in question are numerous. In this research the benefits will be split into two major groups

- Benefits to investors
- Benefits to companies and governments

### Benefits to investors

In today's world of expanding globalization and loosening of borders, investors from all countries generally have it much easier to trade and invest into foreign markets. Benefits to investors are probably the largest portion of benefits among the 3 types of benefits and since the market doesn't exist without investors these benefits are definitely the most important ones.

Investors will have a wider variety of investments to choose from and have a better chance to create a customized portfolio that suits a specific investor. For example an investor on SASE can mainly choose between companies in real sector such as banks, power and gas producing companies, pharmaceutical companies, telecom etc, but by having Turkish companies cross listed to SASE, investors in BiH could have an access to companies in other niches such as service, IT, automotive and many others. Investors would benefit from an improvement in quality and availability of information. Every company that is a subject to cross listing into other exchanges will have to adapt and adhere to new corporate governances as well as state/government regulations. That new set of rules will benefit the investor as it would be almost impossible for a company to fabricate and window-dress the accounting and other legal information across markets. Improvement in the information flow and quality will even attract more investors who were previously reluctant to investing due to corruption in the companies and markets. Another side benefit to the investors would be a fact that investors would enjoy better protection from companies' malpractice due to more stringent and strict rules that would be enforced to cross listed firms. One of the most important benefits to investors in the case of cross listing is the liquidity of the market. As previously noted SASE has been suffering the chronic low trading volume that hurts investors since low volume adds to the negatively affected beta ( $\beta$ ) and overall instability in the market prices. Table 3 and Table 4 shows the rapid fall in share turnover which is the total number of shares during a period divided by the average number of shares outstanding for the period. Obviously this ratio needs to be as high as possible which is quite opposite in case of SASE.

**Table 3:** Share turnover of SASX-10 companies in %

| <i>SASX 10 Companies</i>            | Trading Shares |         |         | Total Shares Outstanding | Turnover |       |       |
|-------------------------------------|----------------|---------|---------|--------------------------|----------|-------|-------|
|                                     | 2013           | 2014    | 2015    |                          | 2013     | 2014  | 2015  |
| Bosnalijek d.d. Sarajevo            | 1,251,231      | 423,500 | 215,058 | 7,829,987                | 15.98%   | 5.41% | 2.75% |
| BH Telecom d.d. Sarajevo            | 309,765        | 382,181 | 163,984 | 63,457,358               | 0.49%    | 0.60% | 0.26% |
| JP Elektroprivreda BIH dd Sarajevo  | 74,020         | 131,657 | 112,712 | 31,506,541               | 0.23%    | 0.42% | 0.36% |
| JP Elektroprivreda HZHB Mostar      | 80,995         | 26,937  | 206,625 | 7,361,660                | 1.10%    | 0.37% | 2.81% |
| Fabrika duhana Sarajevo dd Sarajevo | 42,712         | 57,177  | 50,908  | 1,281,712                | 3.33%    | 4.46% | 3.97% |
| JP HT dd Mostar                     | 72,639         | 16,544  | 175,774 | 31,586,325               | 0.23%    | 0.05% | 0.56% |
| Energoinvest d.d. Sarajevo          | 128,474        | 145,921 | 67,321  | 17,657,682               | 0.73%    | 0.83% | 0.38% |
| Energopetrol dd Sarajevo            | 14,874         | 2,344   | 41,983  | 5,492,922                | 0.27%    | 0.04% | 0.76% |
| IK Banka dd Zenica                  | 11,019         | 72,485  | 36,308  | X                        |          |       |       |
| Tvornica cementa Kakanj dd Kakanj   | 12,870         | 24,388  | 15,865  | 9,476,540                | 0.14%    | 0.26% | 0.17% |

Source: [www.sase.ba](http://www.sase.ba)

**Table 4:** Share turnover of SASX-10 companies in BAM

| <i>SASX 10 Companies</i>           | Year             |                 |                 | Increasing/<br>Decreasing<br>from 2013<br>to 2015 | Increasing/De<br>creasing from<br>2014 to 2015 |
|------------------------------------|------------------|-----------------|-----------------|---|--|
|                                    | 2013             | 2014            | 2015            |   |  |
| Bosnalijek d.d. Sarajevo           | 17,603,134.85 KM | 4,862,039.99 KM | 2,274,453.65 KM | -87%  | -53%   |
| BH Telecom d.d. Sarajevo           | 6,080,675.91 KM  | 7,515,664.94 KM | 3,223,738.77 KM | -47%  | -57%   |
| JP Elektroprivreda BIH dd Sarajevo | 1,677,709.16 KM  | 2,628,944.60 KM | 1,910,654.74 KM | 14%   | -27%   |
| JP Elektroprivreda HZHB Mostar     | 2,813,044.09 KM  | 866,012.02 KM   | 7,903,864.86 KM | 181%  | 813%   |
| FDS dd Sarajevo                    | 2,622,451.38 KM  | 2,433,514.90 KM | 2,217,435.59 KM | -15%  | -9%  |
| JP HT dd Mostar                    | 485,539.12 KM    | 104,081.94 KM   | 1,196,319.35 KM | 146%  | 1049%  |
| Energoinvest d.d. Sarajevo         | 322,778.33 KM    | 312,483.37 KM   | 128,141.41 KM   | -60%  | -59%   |
| Energopetrol dd Sarajevo           | 102,574.17 KM    | 18,139.59 KM    | 218,447.52 KM   | 113%  | 1104%  |
| IK Banka dd Zenica                 | 665,546.13 KM    | 4,145,923.73 KM | 2,147,693.08 KM | 223%  | -48%   |
| Tvornica cementa Kakanj dd         | 260,317.67 KM    | 519,038.27 KM   | 364,696.22 KM   | 40%   | -30%   |

Source: [www.sase.ba](http://www.sase.ba)

With firms from both exchanges having IPO in the cooperating market there will be an additional shares available for investors in foreign markets and with more investors in the play, the supply and demand will stabilize without having abrupt shifts to either side, hence lowering the choppiness in the market, hence lowering the firm's  $\beta$ . Also due to development of more efficient marketplace investors on both ends can expect narrowing of the price spreads and better efficiency in the stock pricing and therefore having lower chance for arbitrage and abuse of the market itself.

### Benefits to companies and governments

While benefits for investors are ample and many, the companies and governments of both countries will also benefit from the cooperation, cross listing and merger of the two exchanges. One of the biggest benefits to the companies in both markets is that the companies will be able to do the second initial public offering (IPO) in the cross listed country, hence issuing new shares, resulting in a radical increase in firm's market capitalization. With an increase in market capitalization the overall volume of traded stocks will also increase fatherly increasing the traded shares turnover. Using only a modest and conservative increase in number of shares by 20% the results in the turnover are very apparent as shown in Table 5.

**Table 5:** SASX-10 companies new turnover after merger of exchanges

| <i>SASX 10 Companies</i>            | Trading shares |           | Shares outstanding | Turnover |        |
|-------------------------------------|----------------|-----------|--------------------|----------|--------|
|                                     | 2016           | 2017      |                    | 2016     | 2017   |
| Bosnalijek d.d. Sarajevo            | 1,801,774      | 2,162,129 | <b>9,395,984</b>   | 19.18%   | 23.01% |
| BH Telecom d.d. Sarajevo            | 447,755        | 537,306   | <b>76,148,830</b>  | 0.59%    | 0.71%  |
| JP Elektroprivreda BIH dd Sarajevo  | 104,350        | 125,220   | <b>37,807,849</b>  | 0.28%    | 0.33%  |
| JP Elektroprivreda HZHB Mostar      | 116,609        | 139,930   | <b>8,833,992</b>   | 1.32%    | 1.58%  |
| Fabrika duhana Sarajevo dd Sarajevo | 61,461         | 73,753    | <b>1,538,054</b>   | 4.00%    | 4.80%  |
| JP HT dd Mostar                     | 104,614        | 125,537   | <b>37,903,590</b>  | 0.28%    | 0.33%  |
| Energoinvest d.d. Sarajevo          | 185,618        | 222,741   | <b>21,189,218</b>  | 0.88%    | 1.05%  |
| Energopetrol dd Sarajevo            | 21,356         | 25,628    | <b>6,591,506</b>   | 0.32%    | 0.39%  |
| IK Banka dd Zenica                  | 15,867         | 19,041    | <b>556,800</b>     | 2.85%    | 3.42%  |
| Tvornica cementa Kakanj dd Kakanj   | 19,105         | 22,926    | <b>11,371,848</b>  | 0.17%    | 0.20%  |

Source: author's analysis

Of course by issuing new shares of stock the companies would have to adhere by the local rules and regulations and other stipulations by security and exchange commission that would in the end benefit the investor but also have a secondary benefit to the company because the company will have a better or more realistic view into its own situation. The above concept of turnover didn't take in effect another huge benefit to the cross listed company and that is the effect on the price of the stock. Companies will experience some sort of a price discovery where the pricing of stocks become much more efficient than in an isolated or stand-alone markets. Chances are that if the volume and efficiency of the pricing increases, the companies will show up on the professional analysts radar as well as the mutual fund managers which will even more increase the recognition of the company, resulting in the probable increase in stock price.

With the existing historic ties between Bosnia and Herzegovina and Turkey and the recent interest in other trades and trade agreements between Turkey and BiH, the companies will benefit from an increase in brand recognition in a new market. Increase of a brand recognition may not be easily quantifiable but we can be certain that it will have an effect on the stock prices as investors, especially small investors are most likely to invest into firms that they have the previous knowledge of.

In this entire benefit scheme the governments of both countries are included too. Each country's government will surely benefit on multiple factors but the main factor is the economic stability and flow of capital. With an increase in companies' price stability comes stability in the entire sector(s) as well as the stability in the macroeconomic aspects. This resulting stability in the economy may result in an improved credit rating not only for the companies but for governments as well, therefore decreasing a cost of capital to the benefit of all. As these firms attract additional investors the flow of capital will also improve that will in effect improve the situation for all the participants in the economic chain, while at the same time improving the general living and economic conditions in the country.

The government will also surely benefit by an increase of taxable income both on an individual and corporate level and another potential benefit would be that the cooperation between Borsa Istanbul and SASE can serve as an example and as a basis for all the future cooperation between Balkan exchanges. In recent economic conferences one can see that the common denominator of economic growth in Balkan countries is cooperation and unity, with more local exchanges cooperating the benefits for all stakeholders would multiply even more.

### **Findings**

From this research it becomes clearly apparent that benefits of the cooperation of the emerging stock market such as SASE with an already developed market such as Borsa Istanbul, are many. The research has shown that all of involved parties and stakeholders are benefiting from this merger.

Hence, the hypothesis "The cooperation and a partial merger of SASE and Borsa Istanbul is highly beneficial to all stakeholders in each market – from investors, over companies in the market and both countries' governments" is confirmed. The natural question arises from this research and that is, what are the costs and what does the cost benefit analysis says about the merger of exchanges but in all reality the benefits are so abundant that not only do they cover the costs but they far exceed them. Although the benefits are plentiful there are some important costs and those are mostly pertaining to the companies and not to investors or governments. The companies, in order to reap all the benefits listed in this research, would need to invest certain capital into investment bank(s) that would organize an additional IPO, also the companies would have to pay the cross-listing fee to the exchanges, although this fee could be reciprocally removed with the prior agreement between exchanges. Another important cost to companies would be an additional time and funds spent in order to conform to the local laws and rules as well as an additional costs for another layer of auditing, but all in all the benefits on the macro as well as micro scale are apparently very much abundant, so it can be concluded that the benefit cost ratio, although not mathematically calculable, tilts benefits scale by far.

### **Conclusion**

In conclusion, this research has clearly showed that the main obstacle of this merger is that of a will of directors of exchanges and sooner they start the procedure, sooner the Turkish and Bosnian companies, investors and governments can start gaining from the benefits listed. Also this merger can definitely serve as a breeding ground for future co-ops among other ex-Yugoslav or Balkan exchanges that suffer from the same problems as SASE. In all reality the sky is really the limit of the benefits that come out of this merger as it will not only generate value added benefits but also sizeable capital gains for all stakeholders involved.

As with any research, especially since this merger is still in the inception phase, this research can serve as a starting point for any future researches on any topic pertaining to the merger of SASE and Borsa Istanbul. Hopefully generations to come will realize that the power is in unity on all levels, especially the economic one.

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