

Cross-border acquisitions and profitability of acquired companies in Serbian cement industry

Међународне аквизиције и профитабилност преузетих компанија у цементној индустрији Србије

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Abstract: Transition to market economy in the Republic of Serbia started with one decade of delay compared to most former socialist countries. The transition has implied liberalization of economic policies in the area of foreign direct investments, even in some industries that have been previously considered strategic. Multinational companies have used new business opportunities and acquired some of the most important and largest domestic companies. This paper analyses the impact of cross-border acquisitions on the profitability of targets in Serbian cement industry during the period 2000-2020. Serbian cement industry includes three cement plants, all of which were acquired in the process of privatization during 2002. The study analyses changes of ROA (return on assets), ROE (return on equity) and ROS (return on sale) of targets in the short term and in the long term after the acquisitions. The research results show that profitability of all companies improved both in the short term and in the long term after acquisitions. These improvements were achieved through higher cost efficiency and more efficient business asset management.

Keywords: cross-border acquisitions, profitability, cement industry, transitional economies

JEL classification: G34, L25, L61

Сажетак: Транзиција ка тржишној привреди је у Републици Србији отпочела са једном деценијом закашњења у односу на већину бивших социјалистичких земаља. Транзиција је подразумевала либерализацију економских политика у области страних директних инвестиција, чак и у неким секторима који су се раније сматрали стратешким. Користећи указане пословне прилике мултинационалне компаније су у почетним фазама приватизације преузеле неке од најзначајнијих и највећих домаћих предузећа. Овај рад анализира утицај међународних аквизиција на профитабилност преузетих компанија у цементној индустрији Србије у периоду 2000-2020. године. Цементна индустрија Србије обухвата три цементаре, а све три су биле преузете у процесу приватизације током 2002. Године. У раду се анализирају промене стопе приноса на имовину (*return on asset* – ROA), стопе приноса на капитал (*return on equity* – ROE) и нето профитне стопе (*return on sale* – ROS) у кратком и дугом року након аквизиција. Резултати истраживања показују да је профитабилност свих компанија унапређена у кратком року након аквизиција, као и у дугом року, услед унапређења трошковне ефикасности и ефикасности управљања пословном имовином.

Кључне речи: међународне аквизиције, профитабилност, цементна индустрија, транзиционе економије

ЈЕЛ класификација: G34, L25, L61

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Introduction

The collapse of the socialist state system in the 1990s, along with economic liberalization and technological innovations, are some of the most important drivers of globalization. Formerly closed markets in Europe, with over 300 million potential consumers, became available for multinational companies (MNCs) from developed countries. By entering the market of transition economies, the MNCs faced a business environment that largely differed from the ones in domestic markets. Market institutions in transition economies were not efficient, while some market institutions had not been formed yet (Peng, Wang & Jiang, 2008). Besides, certain stakeholders, such as the unions and local governments, had much greater influence than in developed markets, which has to be considered when entering these markets (Rondinelli & Black, 200). Striving to use new business opportunities, and at the same time deal with the threats stemming from the specific business environment, MNCs frequently use cross-border acquisitions as entry strategy in transition and emerging markets (Lebedev, Peng, Xie & Stevens, 2015).

MNCs use cross-border acquisitions in transition markets to gain the access to rapidly growing demand and resources that are unavailable in domestic markets (cheap labour, strong local brands and local marketing knowledge) (Langestain, et al, 2018). MNCs combining the acquired resources with the existing capabilities, such as advanced technology, brands, managerial and marketing knowledge, which enables them to improve the market position. However, most targets in transition economies did not possess the competences necessary to compete in the new business environment, so new owners had to restructure them radically. Consequently, such acquisitions often had the characteristics of brownfield investments (Estrin & Meyer, 2011). The targets could not be restructured successfully in the short run due to a large number of stakeholders with conflicting interests (Domanović et al., 2020), necessity of high investments in post-acquisition period, and non-efficient institutional environment (Meyer, 2002; Paik, 2005).

We analysed the impact of cross-border acquisitions on the profitability of targets in Serbian cement industry for several reasons. Firstly, cement industry is capital intensive and technology intensive. Therefore, the industry is predominated by large MNCs, which have been the key acquirers in Serbia. Second, the industry is characterized by low ratio of added value and the product weight. Consequently, MNCs operate in local markets through production subsidiaries which are often acquired through cross-border acquisitions. Third, Serbian cement industry is characterized by high degree of concentration, i.e. oligopolistic structure, due to which micro economic approach to the analysis, which we apply in this paper, is adequate for identifying trends in the cement industry. Finally, the cement industry has a strategic importance for the development of related industries such as construction and investment in road infrastructures, which are currently the drivers of the accelerated growth of Serbian economy. This way, we analyse the indirect effects of cross-border acquisitions on industries that are closely related to the cement industry.

The relevance of this paper is reflected in the expansion of knowledge about the effects of cross-border acquisitions on business performance. There are numerous papers that analyse the impact of cross-border acquisitions on business performance in developed countries (Moeller, et al, 2005; Chang & Tsai, 2013) whereas the research in developing economies is still limited (Changqui & Ningling, 2010; Nicholson & Salaber, 2013). The success of cross-border acquisitions in transition economies, especially during the process of privatization, became a topical research question at the beginning of 2000s (Uhlenbruck & De Castro, 2000). Considering that the transition in Serbia started later, there was no large number of such studies. In the past few years, there has been a limited number of papers that analyse the performance of cross-border acquisitions in Serbia (Savović, 2016; Marković & Azdejković, 2016). This paper differs from previous similar papers in the length of time series (over two decades) and in the fact that it focuses on all companies operating in one industry.

The paper is structured as follows. The first part gives a literature review on measuring acquisition performance. Then, the methodology used in the paper is described. Further, the research results and discussion are presented. The last part of the paper includes the conclusion, with limitations and suggestions for further research.

1. Theory and hypotheses

1.1. Measurement of acquisition performance

The literature offers several approaches to measuring acquisition performance. The first approach uses the stock-market-based measures to assess acquisition performance. The researchers compare the results for shareholders after the acquisition with “normal returns” that would have been achieved if the acquisitions had not been realized (Sudarsanam, 2003, p. 65). This method is mainly short-term oriented, because the long-term stock price is affected by a large number of factors, although there are some studies that tend to quantify the impact of acquisitions on long-term stock price (Thanos & Pappadakis, 2012). This method is mostly used for analysis in developed countries, while in transition economies it is not adequate, as the financial markets are not efficient and a large number of transactions includes acquisitions of companies that are not listed on stock-markets.

Another approach uses accounting-based measures to evaluate acquisition performance. The most commonly used indicators of profitability are: return on assets (ROA), return on equity (ROE) and return on sale (ROS). The main argument for applying this approach is that it measures realized synergetic effects in the long term, rather than investors' expectations, and that it can be applied on acquisitions both in developed and developing countries. This approach is often used in combination with stock-market-based method, which measures short-term effects, while long-term effects are measured using accounting-based indicators (Ding, et al, 2021). However, the accounting approach has some disadvantages. Accounting indicators largely depend on the local tax policy.

Furthermore, individual companies use different accounting policies, which makes it difficult to compare the results.

The third approach uses subjective performance measures to assess the success of acquisitions. This means that managers and experts familiar with the acquisition assess the financial and non-financial performance of the acquired companies (Papadakis and Thanos, 2010). Subjective performance measures are significant when researchers have a problem with obtaining data for the application of objective performance measures. However, this approach involves the issue of managers' personal bias, especially when only one manager evaluates company performance. Overcoming this problem can be achieved by including a large number of managers from one company in performance evaluation (Savović, 2016).

1.2. Impact of international acquisitions on target profitability

Most studies use accounting-based measures for evaluating acquisition performance, comparing profitability of companies several years before and after acquisitions (Table A1 is given in the Appendix). Research results of these studies are not uniform, meaning that some studies have shown a positive impact of cross-border acquisitions on performance (Guest et al., 2010; Rakita and Marković, 2013; Zhan and Wang, 2020; Cui and Leung, 2020), in some studies the impact has not been completely clear (Golubov and Xiong, 2020; Pereira et al., 2021), while some studies have shown that cross-border acquisitions have negative impact on profitability (Lu, 2004; Martynova et al., 2007; Agyei-Boapeah, 2019).

Guest et al. (2010) used a sample of 303 acquisitions carried out in the UK in the period 1985-1996 to analyse the impact of these acquisitions on profitability and share returns. The study showed that the targets' profitability improved in post-acquisition period, whereas the impact on share returns was negative. Rakita and Marković (2013) analysed the impact of cross-border acquisitions in Serbia on targets' profitability. The study was based on 78 acquisitions carried out in the period 2006-2011. They used return on assets, return on equity and operating profit margin to measure the targets' profitability. The study found out that many targets improved profitability after the acquisition. Zhan and Wnag (2020) researched the impact of acquisitions on companies' profitability in developing economies. The authors based their research on 12 Chinese pharmaceutical companies that realized acquisitions during the period 2008-2016. They compared the rate of return on assets (ROA) one year prior to acquisition and two years after the acquisition. Research results showed that the companies which used acquisitions to expand the supply chain or obtain new technology improved their ROA. Analysis of US acquisitions during the period 2000-2012 showed that the acquirers with better managerial capabilities achieved superior business performance (Cui and Leung, 2020).

Some studies have not discovered a clear relation between cross-border acquisitions and profitability, emphasizing that the impact of cross-border acquisitions can be both positive and negative, depending on the level of analysis and used indicators (Golubov and Xiong, 2020; Pereira et al., 2021). Analysing 8,803 US acquisitions realized during the

period 1997-2014, Golubov and Xiong (2020) found out that, on average, the private operating acquirers experienced improved operating performance, while the public acquirers experienced lower performance in post-acquisition period. More specifically, the private operating acquirers increased their ROA by 3-8% three years after the deal completion, while the public acquirers decreased their ROA between zero and 2%. Pereira et al. (2021) analysed 8,078 companies from 43 developing markets that carried out cross-border acquisitions in the period 2006-2015. The results showed that the impact of cross-border acquisitions on profitability is an inverted U-shaped. The advantages provided by cross-border acquisitions are greater when acquisitions are realized in developed economies than when they are realized in developing economies.

Some studies showed that acquisitions have negative impact on profitability (Lu, 2004; Martynova et al., 2007; Agyei-Boapeah, 2019). Lu (2004) compared profitability of 596 US companies 60 months prior to and after acquisitions, and found out that acquisitions had negative impact on profitability. Martynova et al. (2007) analysed 155 acquisitions realized in Europe and the UK in the period 1997-2001 to assess the profitability of companies in long-term. Research results showed that acquisitions had negative impact on profitability in long-term period. A sample of 9,419 acquisitions realized by 1,443 UK companies in the period 1988-2014 was used to analyse the impact of cross-border acquisitions on corporate performance (Agyei-Boapeah, 2019). The following four key performance measures were used in the study: 1) accounting-based measure of performance – ROA 2) market-based measure of performance - Tobin's Q 3) the operating cash-flow, and 4) the operating costs measure. The research results showed that, on average, cross-border acquisitions had negative impact on corporate performance. However, the negative impact of cross-border acquisitions was not identified when cross-border acquisitions were conducted by: 1) domestic companies and 2) highly experienced multinational companies.

The literature review shows that there are no consistent conclusions on how acquisitions affect companies' profitability. However, considering the specific context of our research – privatization of cement companies in transition market, radical restructuring of targets' operations, transfer of knowledge and technologies – the following two research hypothesis have been set:

Hypothesis 1: Cross-border acquisitions in Serbian cement industry increase profitability of acquired companies in the short term.

Hypothesis 2: Cross-border acquisitions in Serbian cement industry increase profitability of acquired companies in the long term.

2. Methodology and data

The paper analyses the effects of cross-border acquisitions on profitability of acquired companies in cement industry, in the short and long term. To do this properly, it is necessary to consider the structure of the industry and the factors that created such

structure. Serbian cement industry is characterized by oligopolistic structure, with only three competitors, all of which were acquired in the process of privatization during 2002, by large MNCs: Titan (Greece), Holcim (Switzerland) and Lafarge (France).

Holcim and Lafarge merged in 2014. To ensure compliance with national competition regulations, the companies had to sell off some business units in the markets where the merger would harm market competition. Accordingly, Holcim Serbia was sold to Irish company CRH in 2015. In spite of this divestment, a high degree of market concentration has remained in Serbia. The value of Harfindal-Hirschman index for the industry is 3.576, and all values above 2.500 imply high concentration (Commission for Protection of Competition, Republic of Serbia, 2018). Table 1 shows basic data on the analysed companies.

Table 1: Companies in Serbian cement industry

Targets	Acquirers	Acquirers' country of origin	Year of acquisition	Company name after acquisition
Popovac Cement Plant	Holcim	Swiss	2002	Holcim Srbija/Moravacem*
Beočin Cement Plant	Lafarge	French	2002	Lafarge Srbija
Kosjerić Cement Plant	Titan	Greek	2002	Titan Srbija

* Note: Holcim Serbia was taken over in 2015 by the Irish company CRH and operated under the name CRH Serbia. In 2021, it changed its name to Moravacem

In this paper we analyse short-term and long-term profitability of acquired companies in Serbian cement industry in the period 2000-2020. Since we analyse cross-border acquisitions in Serbia, tax policy will not have an impact on profitability indicators, while the effects of different accounting policies will be negligible due to long time series.

To measure the impact of acquisitions on the targets' profitability, we used three indicators, as follows: return on assets (ROA), return on equity (ROE) and return on sale (ROS). The same approach was used by Cording et al (2010), since this is the best way to include the effects of changes of profit margins, the assets management efficiency and the effects of financial leverage. In this paper we calculate ROA as the ratio of net income to the book value of total assets, ROE as the ratio of net income to the equity value, and ROS as the ratio of net income to the net sales.

In order to identify the short-term effects, we compared the average value of the indicators three years prior to the acquisition with their average value three and five years after the acquisition. The long-term effects were measured through comparison of the average value of the indicators three years prior to the acquisitions and their average value

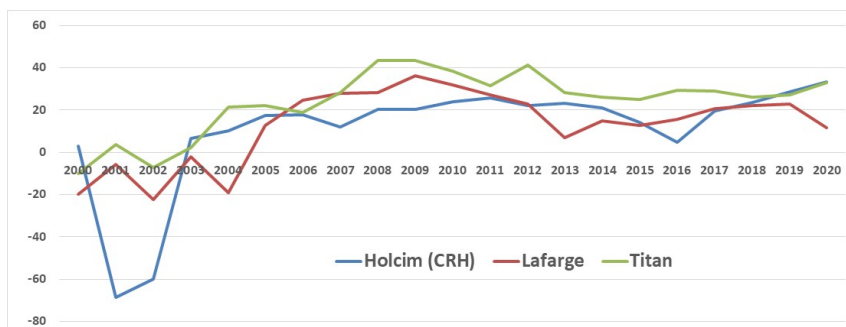
in the whole post-acquisition period. The data necessary for the calculation of the indicators were taken over from the financial reports of the analysed companies.

3. Results and discussion

In order to adequately consider the effects of cross-border acquisitions on companies' profitability in cement industry, it is necessary to analyse the development of cement market in Serbia. The industry is characterized by high fixed costs, due to which it is necessary to achieve economies of scale in all activities of supply chain. Positive market trends after the privatization helped to achieve economies of scale in the industry. In its natural form, the demand grew continuously until the Great recession in 2008, when the demand plunged. Starting from 2014, the amount of concrete produced in Serbian market has been growing, so in 2019 almost 2,1 million m³ of fresh concrete was produced, which is the increase of almost 200% compared to the period before the crisis (Statistical Office of the Republic of Serbia, 2021). In addition to this, there is a change in demand structure. Sales of traditional products (such as Portland cement) are stagnating, while the sale of new and innovative products (such as cement mortar) are on the rise (Savović & Marković, 2021). The rising amount of sold cement products boosted sales income of the cement companies, which grew from 20 billion RSD in 2008, to almost 26 billion RSD in 2020. It is significant to mention that, in spite of COVID-19 pandemic, the industry's sales income reached the historical maximum in 2020, which is a result of a sharp rise of construction industry and large public investments in infrastructure even during the crisis.

The sales trends strongly correlated to the trends in ROS ratio for the analysed companies. Figure 1 shows trends in ROS for all three companies in the period 2000-2020.

Figure 1: ROS (%) of acquired companies during the period 2000 – 2020



Source: Financial statements of the analysed companies

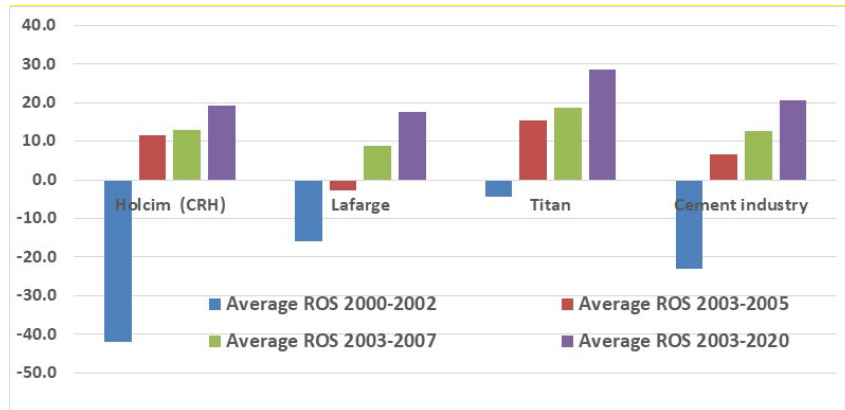
The data from Figure 1 show that the companies had insufficient profit margins before privatization, and that the results changed after the acquisitions. Before the acquisitions the companies were largely in the red, which resulted in negative values of ROS, being especially high in case of company Holcim (CRH). After the change of ownership and business restructuring, these companies started operating in the black.

Consequently, the value of their ROS ratios increased considerably and reached the peak in the year before the Great recession. This increase was driven by a sharp employee downsizing (Savović & Marković, 2021), and a faster growth of employee productivity compared to the growth of cost of salaries (Azdejković & Marković, 2016). Implementation of the human resource management activities, such as communication and information flow, better defined training needs, employee empowerment, contributed to increasing employee commitment and, on that basis, increasing employee productivity (Grubor et al., 2020). Employee productivity in the acquired companies increased by changing the existing weak corporate culture and adopting a new strong one based on greater employee commitment and motivation (Miletić et al., 2021).

It is important to notice that the improvement of ROS does not depend completely on the size of a company and productivity of employees. As the smallest analysed company measured by the sales incomes and with the least productive workforce in almost entire analysed period (Savović & Mimović, 2020), Titan had the highest value of ROS ratio in the industry since 2007. According to all this, we can conclude that, apart from the economies of scope in production and low labour costs, other types of costs, such as logistic costs, impact the profitability in cement industry as well. Obviously, Titan controls these costs more efficiently than other competitors in the industry. It is significant to emphasize that after the Great recession, all three companies experienced a decrease in ROS value, although all of them were in the black, and that all of them had a different dynamics of ROS value recovery after the recession.

In order give a more precise analysis of the effects of the acquisitions on ROS value, we have compared the value of three-year average indicator before the acquisition, from 2000 to 2002, with the average value of the same indicator, three years, five years and in the entire analysed period after the acquisition. Figure 2 shows long-term and short-term ROS change after the acquisitions in the Serbian cement industry. We can see that in pre-acquisition period company Holcim (CRH), on average, had the highest negative value of ROS, over 40%, while Titan had the lowest negative value of this indicator. In a three-year period after the acquisition Holcim (CRH) and Titan managed to achieve positive average ROS values, of 12% and 15% respectively, while Lafarge had negative ROS value on average, due to prolonged business restructuring. In the period of five years after the acquisition, all three companies had positive average ROS value, which was the highest in the case of Titan, reaching 19%, and the lowest with Lafarge of only 9%. In the long term, all three companies have improved ROS value significantly. In the whole post-acquisition period, Titan recorded the largest average value of this indicator of 29%, while the lowest average value was recorded by Lafarge, 18%. We can conclude that the management of Titan, as the smallest in the industry, focused their resources on optimization of business process and growth in more profitable market segments, which led to superior value of ROS compared to its competitors.

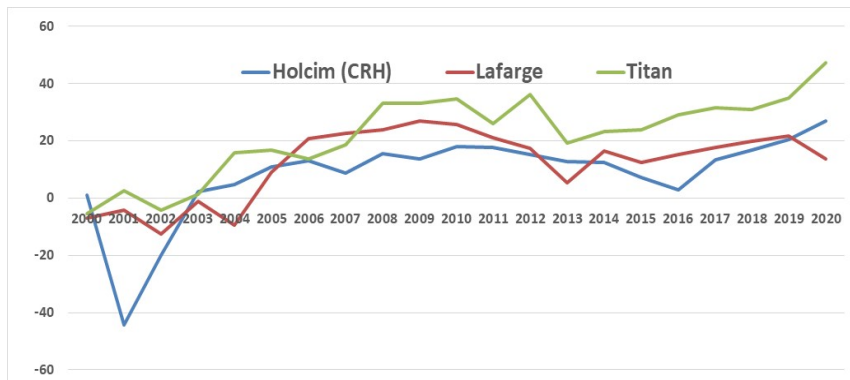
Figure 2: Comparative analysis of ROS of acquired companies during the period 2000 – 2020



Source: Financial statements of the analysed companies

In order to obtain a more detailed insight into business performance of cement industry, we analysed the change of ROA value in the industry after the acquisitions. Besides the profit margins, this indicator also includes asset management efficiency. Figure 3 shows the change of ROA value in Serbian cement industry during the period 2000-2020.

Figure 3: ROA (%) of acquired companies during the period 2000 – 2020



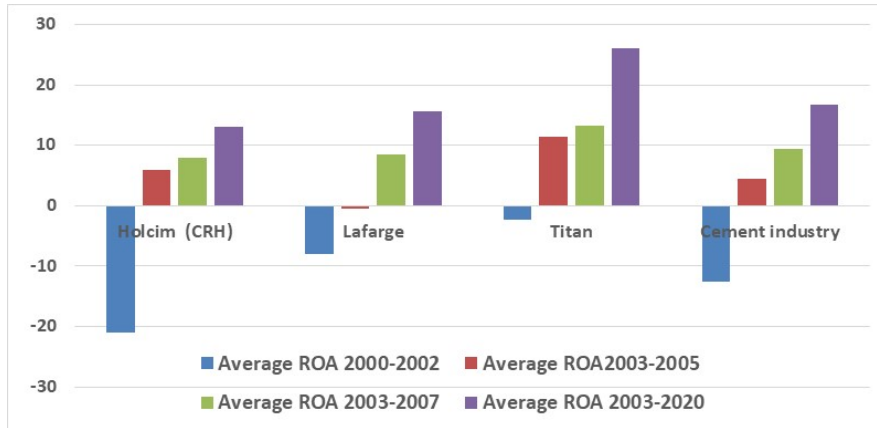
Source: Financial statements of the analysed companies

The data from Figure 3 show that there was a considerable rise of ROA value in all three companies after the acquisitions. However, the rise was not linear and it was hindered by the Global recession in 2008, due to which it started to fall. Although it seems that this decrease was sharp, it is interesting to notice that even in the period of crisis the value of

ROA in Serbian cement industry exceeds the value of the same indicator in cement industry in some developing markets, which means that cement industry of Serbia is highly profitable (Rezina, et al, 2020; Muslumov, 2005). Recovery of Serbian construction industry and intense investments in road infrastructure resulted in growth of ROA value in all analysed companies. In 2020, the year of COVID-19 pandemic, ROA value in two these companies reached the historical maximum, while Titan achieved the level of 48%. It is significant to notice that, the same as in case of ROS, the size of a company does not determine the value of ROA. Accordingly, Titan as the smallest analysed company had superior ROA performance in the post-crisis period.

To get a more detailed insight into the effects of cross-border acquisitions on the ROA value change, we compared the average value of this ratio in pre-acquisition period with the average values in the whole post-acquisition period, and three and five years after the acquisitions. Figure 4 shows long-term and short-term change of ROA value of Serbian cement companies after the privatization. The data show that only Titan had negligibly negative ROA value, while the other two companies had a considerably negative average ROA value before the acquisitions. Titan and Holcim had a positive average ROA value three years after the acquisitions, 11% and 6% percent respectively. On the other hand, Lafarge had a slightly negative average ROA value in the same period. The trends in this indicator five years after the acquisitions show that all companies improved their average ROA values, which amounted to 8-13%. This leads to a conclusion that all three companies improved their ROA values significantly in the short period after the acquisitions. The improvement of ROA after privatization in transition economies is not only the result of improved business efficiency. Divestment from non-business assets, which were often owned by state-owned companies (e.g. resorts, flats, etc.), also contribute to it. The data on average ROA value show that even in the long term there was an improvement in the indicator value. The companies' ROA average values for the whole post-acquisition period were between 13% and 25%, and Titan had the highest average value of the ratio in the period. We emphasize that average ROA values in the industry are higher in the long term than in the short term, which implies that post-acquisition restructuring is time-consuming and full synergy effects can be achieved only in the long term.

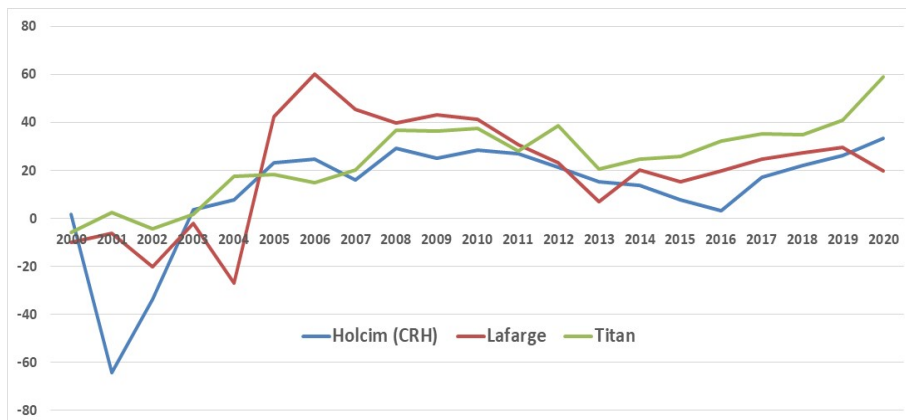
Figure 4: Comparative analysis of ROA of acquired companies during the period 2000 – 2020



Source: Financial statements of the analysed companies

The last indicator in our analysis is ROE, which introduces the impact of financial leverage on company's profitability. Figure 5 shows trends in ROE value in Serbian cement industry during the period 2000-2020.

Figure 5: ROE (%) of acquired companies during the period 2000 – 2020



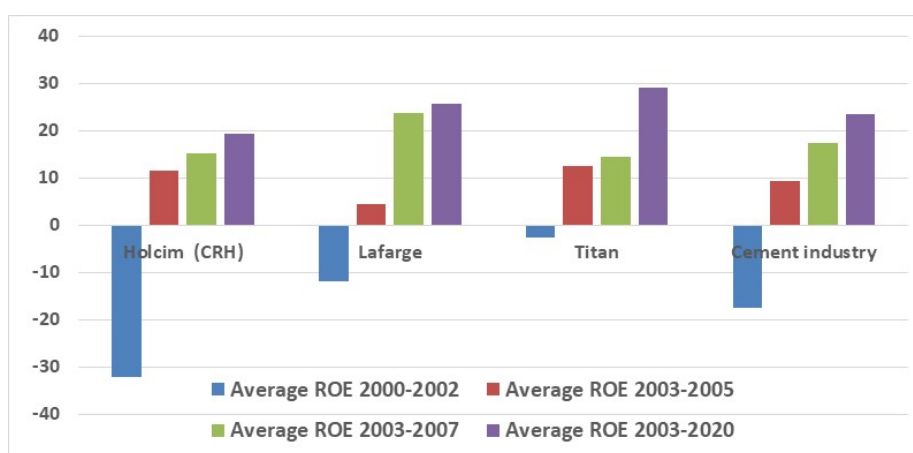
Source: Financial statements of the analysed companies

Data from Figure 5 show that the companies had negative ROE before the privatization. All companies were in the black throughout almost whole post-acquisition period, and their ROE values were two-digit numbers in almost all analysed years, reaching

up to 60%, which is an extremely high level in this industry. It is interesting to notice that Lafarge did not have superior ROE values, in spite of its size and high labour productivity. As the smallest and least productive competitor in the industry Titan had the highest ROE values after the Great recession.

To measure short-term and long-term changes of ROE value after the acquisitions, we used the same approach as in the case of the other two indicators. We compared the average ROE value in the period of three years prior to the acquisitions, with its average values three and five years after the acquisitions, and in the whole period after the acquisition. Figure 6 shows short-term and long-term trends in ROE values of acquired companies in Serbian cement industry.

Figure 6: Comparative analysis of ROE of acquired companies during the period 2000 – 2020



Source: Financial statements of the analysed companies

State-owned cement companies had negative average ROE value three years before the acquisitions, which is in compliance with the prior studies that imply weak business performance of state-owned companies in transition countries (Estrin, et al, 2009). The new owners improved the targets' ROE values in short term. However, it is evident that full synergy effects and the effects of changed financial structure required a longer period, of five years and more, to be achieved. It is also important to mention that the positive trends in ROE values continued in the long term, with Titan having especially high increase in this indicator. The acquisitions caused a radical improvement in average ROE value on the level of the whole cement industry. Furthermore, the average value of this indicator is significantly higher in Serbia than in the same industry in some developing markets (Rezina, et al, 2020; Muslumov, 2005). We can conclude that the acquisitions of Serbian cement companies have been very profitable investment projects for the foreign investors, measured by return on equity, both in the short and long term.

Conclusion

Globalization, transition to market economy and the liberalization of economic policies have created a new business environment in transition economies, which stimulates foreign direct investments. Many MNCs have used the emerging business opportunities in transition economies and conducted a larger number of acquisitions during the process of privatization. MNCs conduct cross-border acquisitions in transition economies aiming to additionally exploit their own strategic non-material assets (such as technology, brands, knowledge management, etc.), obtain the access to cheap labour, natural resources, local marketing knowledge and achieve financial synergy. State-owned companies in transition economies are often characterized by outdated technology, a lack of marketing and management knowledge, and poor employees' skills. Consequently, foreign investors have to restructure targets quickly and radically, in order to improve targets' business performance.

Cement industry is characterized by low ratio of added value to weight of products, high share of logistic costs in product price, and high investments in fixed assets. Therefore, cement companies often use acquisitions as entry strategies in foreign markets. Serbian cement industry is characterized by oligopolistic market structure, and all three competitors in the industry were acquired by foreign MNCs in 2002. The effects of the aforementioned cross-border acquisitions on the targets' short-term and long-term profitability were analysed in this paper. Three commonly used accounting-based indicators, ROS, ROA and ROE, were used for the purpose of the analysis.

The analysis shows that foreign ownership contributes to the improved profitability of the targets in short term. This is in accordance with the previous similar studies that analysed the impact of acquisitions in general (Guest et al., 2010; Zhan and Wnag, 2020) and the impact of cross-border acquisitions (Rakita and Marković, 2013) on companies' profitability. The analysis shows that the targets' short-term profitability, three and five years after the acquisitions, was improved due to higher cost efficiency, entry into innovative and more profitable market segments, increased asset management efficiency and more adequate financial structure. The research results confirmed the first hypothesis. The results also show an improvement in the targets' long-term profitability, measured by all three indicators, which confirms the second hypothesis. It is significant to point out that the average values of the analysed indicators in the long term are significantly higher than in the short term. This shows that post-acquisitions business and financial restructuring need time to improve business performance. Furthermore, the analysis shows that the size of the targets and their labour productivity do not have a significant impact on the restructuring effects in the long term. Accordingly, Titan as the smallest and at least productive company in the industry had superior values of the analysed indicators.

The paper has a few limitations. Firstly, although the analysis includes all the competitors in the industry, the number of the analysed companies is too small, which affects the relevance of the obtained conclusions. Additionally, there have not been any domestic acquirers, and therefore we could not compare profitability of domestic and cross-

border acquisitions. However, this paper could be a base for further research that would compare the impact of cross-border acquisitions in the cement industry in Serbia and other transition economies in the region, or analyse business performance of cross-border acquisitions and green field projects in this industry on regional level.

This paper contributes to expansion of knowledge on the effects of cross-border acquisitions on target performance in transition economies. This allows comparison between numerous previous studies undertaken in developed economies and the results obtained in a specific business environment, such as transition market. Besides, the study has practical implications for managers, because it emphasizes the importance of quick and efficient restructuring of a target for improvement of business performance in post-acquisition period. Finally, it is shown that long-term profitability in the cement industry does not depend exclusively on the size of a company and its labour productivity, but predominantly on the efficiency of the entire supply chain.

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Appendix:**Table A1.** A review of empirical studies on the impact of cross-border acquisitions on profitability

Studies	Sample	Period	Measures	Research results	Impact
Lu (2004)	592 US acquisitions		Profitability	Results show that acquisitions have a negative effect on profitability	Negative
Martynova et al. (2007)	155 acquisitions implemented in Europe and UK	1997-2001	Profitability	Acquisitions have a negative impact on profitability in long term.	Negative
Guest et al. (2010)	303 UK acquisitions	1985-1996	Profitability Share returns	Acquisitions improve profitability. Effect of acquisitions on share returns is significantly negative.	Positive
Rakita and Marković (2013)	78 acquisitions in Republic of Serbia	2006-2011	Return on assets, return on equity and operating profit margin.	Cross-border acquisitions improve performance of many acquired companies.	Positive
Agyei-Boapeah (2019)	9419 cross-border acquisitions implemented by 1443 UK companies	1988-2014	Return on assets, Tobin's Q, operating cash-flow, operating cost	Cross-border acquisitions have a negative impact on performance.	Negative
Zhan and Wnag (2020)	127 Chinese pharmaceutical companies	2008-2016	Return on assets	Acquisitions motivated by expanding the value chain and accessing new technologies have a positive impact on ROA.	Positive
Cui and Leung (2020)	US acquisitions	2000-2012	Return on assets (ROA), cash flow from operations (CFO), and market-to-book ratios (MTB)	Acquiring companies with better managerial skills achieve better performance in long term.	Positive

Golubov and Xiong (2020)	8803 US acquisitions	1997-2014	Return on assets	Private acquiring companies experience greater operating performance, while public acquiring companies experience lower performance in post-acquisition period.	Positive /Negative
Pereira et al. (2021)	8078 companies involved in cross-border acquisitions	2006-2015	Return on assets	Impact of cross-border acquisitions on profitability is an inverted U- shaped. The advantages provided by cross-border acquisitions are greater when acquisitions are realized in developed economies than they are realized in developing economies.	an inverted U - shaped