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## THE MANAGERIAL ART OF TRANSFER PRICING: UNDERSTANDING ITS COMMERCIAL AND FINANCIAL IMPLICATIONS

Umetnost upravljanja transfernim cenama – razumevanje  
njihovih komercijalnih i finansijskih implikacija

### Abstract

Achieving superior results compared to those that would have been achieved in independent business activities, as a common goal of connecting independent legal entities, requires decision-makers to identify sources of value in the global market. The paper explores two mechanisms that parent companies can use in pursuit of satisfactory financial results. Firstly, having a greater number of alternatives in making business decisions related to sales in the internal/external markets, defining internal prices, controlling and allocating costs, managing capacity, etc. And secondly, utilizing sources of competitive advantage based on exposure to financing sources that wouldn't be available in independent operations, whether they are reflected in the possibility of internal financing or access to additional external sources. Given that the parent company plays a key role in decision-making (at the level of individual companies and at the level of the economic group), the question arises as to what additional sources of value are available because of integrated operations, and whether their quantification has a measurable impact on the financial performance of the group. In this sense, transfer pricing, which is the focus of our analysis, plays an important role and represents an attractive research area. The key objective of this paper is to examine the impact of commercial and financial aspects of transfer pricing on the performance of economic groups operating in the territory of the Republic of Serbia in 2022, based on the consolidated result of the group and the individual result of the parent company, using a cross-sectional study.

**Keywords:** *transfer pricing, performance measurement, strategic management accounting, commercial transactions, financial transactions*

### Sažetak

Ostvarivanje superiornih rezultata u odnosu na one koji bi bili ostvareni u nezavisnim poslovnim aktivnostima, kao opšti cilj povezivanja samostalnih pravnih entiteta, zahteva od donosioca odluka identifikovanje izvora vrednosti na globalnom tržištu. Rad istražuje dva mehanizma koja matična preduzeća mogu koristiti u potrazi za zadovoljavajućim finansijskim rezultatima. Prvo, raspolaganje većim brojem alternativa donošenjem poslovnih odluka koje se tiču nabavke/prodaje na internom ili eksternom tržištu, definisanja internih cena, kontrole i alokacije troškova, upravljanja raspoloživosti kapaciteta itd. I drugo, korišćenje izvora konkurentskih prednosti po osnovu pristupa izvorima finansiranja koji ne bi bili dostupni u samostalnom poslovanju, bilo da se oni ogledaju u mogućnosti internog finansiranja ili pristupu dodatnim eksternim izvorima finansiranja. Budući da matično preduzeće ima ključnu ulogu u odlučivanju (na nivou pojedinačnog preduzeća i na nivou ekonomske celine), postavlja se pitanje koji su dodatni izvori vrednosti dostupni kao posledica integrisanog poslovanja, i da li njihova kvantifikacija ima merljiv uticaj na finansijski i prinosni položaj grupe. U tom smislu transferne cene, koje su u fokusu naše analize, imaju važnu ulogu i predstavljaju atraktivno istraživačko područje. Ključni cilj u radu je da, polazeći od konsolidovanog rezultata grupe i pojedinačnog rezultata matičnog preduzeća, korišćenjem studije preseka, ispitamo uticaj komercijalnih i finansijskih aspekata transfernih cena na performanse ekonomskih celina koje su poslovale na teritoriji Republike Srbije u 2022. godini.

**Ključne reči:** *transferne cene, merenje performansi, strategijsko upravljačko računovodstvo, komercijalne transakcije, finansijske transakcije*

## Introduction

The pricing of tangible and intangible goods, services and capital transferred between parent companies and their subsidiaries, especially in cross-border transactions, presents serious challenges to management. Operating in a complex and variable sociopolitical and economic environment, companies attempt to create and maintain a competitive advantage, by leveraging the benefits of location, technology, and access to capital markets and other limited resources offered by new markets. This becomes particularly significant considering that transfer prices determine the success of companies, not only of individual enterprises, but also the success of economic group. Moreover, the challenge of defining an adequate transfer pricing system in such conditions will continue to grow given the need for compliance with companies' business model, current and future business and technological process, competitive conditions on the markets, regulatory frameworks, and the chosen business strategy. Management is expected to find an optimum transfer pricing system that enables maximization of profits, minimization of taxes, and meeting other corporate objectives while complying with the tax and financial regulations of their parent country and requirements of the host countries in which their subsidiaries operate.

Focusing on the economic development of the Republic of Serbia, it is notable that in recent years it has largely relied on direct foreign investments and other forms of cooperation with foreign companies, which increased the complexity of business organization and lead to the creation of new economic groups. Fiscal policy, reflected in relatively low corporate and value-added tax rates, as well as tax exemptions and financial incentives, contribute to significant inflow of foreign capital. As a result of such transactions, the ownership structure of companies operating in our country is changing in favor of foreign owners. Since financial markets are still underdeveloped, the capital placement often occurs directly through internal capital markets within the economic groups themselves. By adding the technology and knowledge transfers, the use of natural and human resources, as well as existing infrastructure, the problem of valuing such

transactions, i.e., determining the prices at which these goods, services, and capital are transferred, is becoming increasingly significant in our country. Although the number of economic groups relative to the total number of business entities is not high, they have a strong impact on overall economic trends, as evidenced by the fact that economic entities account for approximately one-third of total revenues and expenses and hold one-third of the financial capacities of the Serbian economy.

Existing research does not fully explain the managerial implications of transfer pricing on financial performance achieved in complex organizations. This paper addresses the impact of commercial and financial implications of transfer pricing on performance attained by the parent company and the economic group it manages. The structure of the paper is designed to reflect this, in which we discuss strategic management control at the core of empirical research, transfer pricing financial outcomes and transfer pricing in the Republic of Serbia.

## Strategic Management Control at the Core of Empirical Research

In general, the objectives assigned to transfer prices in intercompany transactions within economic groups can be multiple. Consequently, the goals of empirical research on transfer pricing can be diverse. Numerous fiscal studies examine the role of transfer pricing in creating an optimal taxation system that will prevent and/or discourage tax evasion and ensure equality and neutrality in taxation. On the other hand, when dealing with individual enterprises, studies focus on examining the role of transfer pricing in minimizing total tax liabilities, i.e., maximizing post-tax profits. With the development of corporate governance, the importance of transfer pricing in the overall management process has been recognized, leading to an increase in the number of studies examining the impact of transfer pricing on the theory, practice, and design of management control systems. Although transfer prices for tax reporting purposes do not have to be accepted for management purposes, research has shown that companies rarely maintain dual transfer pricing systems, making the alignment of their multiple

objectives an imperative for successful business operations. On top of tax-related objectives, transfer prices can also be assigned goals related to creating company's competitive position, which becomes particularly important with international economic groups. Additionally, due to the establishment of numerous internal relationships within complex corporate systems, many internal, management-driven goals can arise. As a result of high information specialization, transfer prices play a significant role in transmitting information along the entire value chain, where they become an instrument for conveying strategy, while simultaneously signaling the need for strategy changes in response to signals coming from external and internal environment.

One of the more dominant approaches in researching the managerial role of transfer pricing is the contingent theory, in which models for comparative analysis of organizations are developed depending on the context of their operations. In other words, the alternative design of management systems is explained by different needs for control mechanisms that arise as a result of environmental factors. In the field of transfer pricing, studies most often focus on examining the design of transfer pricing that would best suit the various environmental influences such as technology, size, structure, and performance of the organization, corporate strategy, differences in tax legislation of the countries in which related parties operate, the competitive position of related parties in local markets, import and business connection restrictions, or even local culture.

Studies based on a contingent approach are particularly characteristic of early studies on the managerial aspects of transfer pricing. Early research finds that transfer prices can be assigned different goals depending on the demands arising from the environment, where the effectiveness of achieving these goals has a measurable outcome in the form of differences in financial performance [10]. Furthermore, by isolating factors from internal and external environment over time, it was found that the role of transfer prices as instruments of strategic change can be explained by the evolution of the organization, i.e., factors that have conditioned changes in the company's operations during its life cycle [3]. In addition to above, empirical research

provides evidence on the relationship between management's perception of environmental factors and the design of transfer pricing systems. The research shows that the likelihood of transfer prices being determined using the market method is higher if maintaining good relations with the local partner is more important to management, and that the likelihood of using one of the cost methods is higher if management pays more attention to controls in foreign trade, which are often used in developing countries as one of the mechanisms to prevent profit outflow [6].

Furthermore, one of the fundamental questions regarding transfer pricing is the delegation of decision-making where tax and managerial goals often conflict. Studies show that the centralization of tax decision-making prioritizes the internal goals of the economic group and the maximization of total profit, at the expense of compliance with local tax requirements, thereby increasing the risk of tax audits. It is believed that this risk can be overcome by pairing centralized tax decision-making with sophisticated tax planning strategies, especially concerning services and intellectual property, thereby simultaneously reducing the risks of tax audits and the number of conflicts in coordinating internal goals [2]. Other research show that transfer pricing systems aligned with tax rules can be successfully integrated into management control systems, especially when transfer pricing systems are transparent both internally and externally, when can be easily revised in cases of serious management problems, and are flexible enough to face volatile business conditions [21].

On the other hand, some research starts from two sets of transfer prices, one for tax purposes and the other for internal management goals. The authors find that the two prices are independent if the tax is calculated using formulas in all relevant jurisdictions, but are interconnected if the tax amount is determined according to the arm's length principle. Both prices decrease with the increase in potential penalties for non-compliance with tax rules. Whereas, the tax transfer price decreases, and the internal transfer price increases with the rise in marginal production costs. The authors find that the optimal internal price is equal to the weighted average of the marginal production cost and the optimal tax transfer price, increased by a portion of the marginal cost of potential penalties for non-

compliance with the arm's length principle [22]. Similar studies conclude that the optimal internal transfer price should be equal to the weighted average of pre-tax marginal costs and the most favorable transfer price determined according to the arm's length principle [1].

Alternatively, some studies hold an opposing view, arguing that companies with intra-company trade do not set the optimal price based on rules applicable to independent entities, but use transfer prices as a strategic secret mechanism, transferring intermediate goods between divisions at prices higher than marginal costs, resulting in double profits compared to competitors that are not divisionally organized. The authors find that an additional advantage of this practice is avoiding the controls in regulated markets [34].

Focusing on decision-making process, some studies argue that using a single price for both managerial and tax purposes leads to certain problems, such as eliminating negotiations over transfer prices, which can increase conflict situations. Due to the significant administrative burden associated with transfer prices, decision-making regarding profit margins is greatly simplified, which can result in suboptimal decisions. Previous cost centers were converted into profit centers with expanded responsibilities for tax decision-making purposes, while remaining at the cost center level for production decision-making, thus creating an imbalance in authority and distortions in measuring the performance of organizational units and their management [9]. Some researchers find that this issue can be overcome with negotiated transfer prices where organizational units are granted with authority to coordinate their activities and goals, hence avoiding distortions that can result in inefficient allocation of divisional profits, which is characteristic of centralized decision-making focused on the economic group overall. It is considered that negotiation perfectly reflects the arm's length principle and allows all stakeholders to be included in the decision-making process [25].

Having all that in mind, the necessity of integrated research on both fiscal and non-fiscal aspects of transfer pricing is becoming more evident. Researchers find that managing tax liabilities is not the only goal of a global strategy and that effective tax planning is at the heart of

managerial decisions [27, 29, 30]. Furthermore, studies identify the immediate effects of aligning transfer pricing systems with tax rules on the design of management control systems, with a consequent impact on the planning, evaluation, and reward processes, and argue that changes in management control systems cannot be understood without understanding the process of aligning with the tax legislation requirements to which multinational companies are exposed [8]. Moving to the level of cost decision-making, complementary result is identified that the allocation of general costs related to the provision of services is significantly influenced by the tax regulatory environment [32]. Furthermore, some authors track the development of tax empirical research in the field of accounting and find that future research needs to expand beyond documenting tax issues and focus on quantifying the tax aspects and limitations they entail [33]. They expect further theoretical development to support the development of methodology used in empirical research, which has not yet been developed sufficiently to encompass both fiscal and non-fiscal impacts on accounting practice. The authors conclude that gaining new knowledge requires an interdisciplinary approach that will not neglect managerial-accounting aspects of transfer pricing. Supporting the same viewpoint, the research presented below aims to provide answers regarding the strategic-managerial role of transfer pricing.

### Transfer Pricing Financial Outcomes

One of the biggest limitations of previous studies is the absence of quantification of the established models and definition of measurable impacts of transfer pricing on financial performance. In an attempt to achieve greater levels of objectivity, newer studies relay on financial statements and other statistical bulletins information to collect quantitative data. A similar approach is taken in this paper, where the impacts of prices determined in internal commercial and financial transactions are first quantified, and then their influence on achieved financial performances is examined.

Recent research in the field of commercial transactions, investigates the evidence of transfer pricing being motivated

by tax issues, specifically questioning whether prices set in intercompany trade are sensitive to the corporate tax rate. It is concluded that the value of internal transfers decreases with the increase in the statutory tax rate in the country producing the good and/or providing the service and exporting it to related parties, and increases in the country importing the good and/or service with a preferential tax system [7]. Similar results are found by researchers focusing on the European area. For example, it was estimated that the tax base in France in 2008 was reduced by 8 billion dollars as a result of profit reallocation to countries with preferential tax systems [35]. Furthermore, examining the impact of profit reallocation by French multinational companies, studies find that the deviation of internal prices from those determined according to the arm's length principle is particularly pronounced if the dependent enterprises are established in countries considered to be tax havens [12]. On the other hand, studies find that branches of Danish multinational companies operating in countries with lower tax rates reduce the value of their exports on average by 5.7% to 9.1%, corresponding to an unreported export value of 141 million dollars in 2006 and a tax revenue loss of 3.24% of the total reported value of Danish multinational companies [11].

Even though the commercial aspects of transfer pricing are often examined in relation to tax incentives, more and more studies focus on their impact on capital placement and overall investment volume. Testing a sample that includes 27 countries during the period 2006-2014, a study finds a negative impact of transfer pricing regulations on the level of investment by multinational companies compared to national companies. The results show that investment in foreign subsidiaries is on average about 11 percent lower after the introduction of tax rules, compared to investments in similar companies that are entirely domestic [14]. Similarly, researchers test how limitations on interest tax deductibility, so-called thin-capitalization rules, and transfer pricing regulations by the host country affect the level of investment and employment of foreign subsidiaries. The results show that, compared to the unrestricted case, in the presence of a typical thin-capitalization rule, the sensitivity of foreign direct investment to the tax rate is about twice as large.

Additionally, the research shows that the introduction or tightening of such a rule has significant negative effects on the level of investment in high-tax countries. However, a significant correlation between transfer pricing regulations and the level of foreign direct investment was not confirmed in this research [4].

In terms of using debt as a source of tax savings, an economic group can structure its activities in several ways to minimize tax burden, including using debt instead of equity as a strategy or organizing an internal capital market to achieve maximum tax efficiency. The existence of such market provides economic groups with an additional source of financing not available to individual enterprises. Multinational companies have an additional advantage in this regard, as they can internally finance beyond the borders of the individual entity's country and replace external debt with internal capital derived from retained earnings and capital reserves of other enterprises that may operate under different tax rules. The most common strategy in the internal capital market is borrowing from subsidiaries located in low-tax countries and internally lending to subsidiaries in high-tax countries, which reduces profits due to interest expenses in high-tax countries, while these are taxed at lower rates as income in low-tax countries.

Numerous studies show that the capital structure of affiliated entities of multinational companies is sensitive to the tax rate in the host country of the affiliate [17, 13, 20]. These studies mainly focus on examining the debt ratio calculated in relation to capital and/or assets, finding evidence of the impact of higher tax rates on higher indicator values, both in multinational and national environments [19], or on examining the tax effects on the total value of internal debt [26]. Generally speaking, the empirical literature supports the view that internal financing is sensitive to taxes. However, the results of previous research do not provide unique conclusions about whether and to what extent internal debt is used for profit reallocation or if these effects reflect conventional understanding of financial leverage. On a sample of all German multinational companies operating in the period 1996-2005, researchers find evidence that international internal financing is used in groups with entities exposed to

lower tax rates and that the size of such internal financing increases with the increase in the difference between the host country's tax rate and the lowest tax rate faced by the group's entities. The study finds that an increase in the host country's tax rate by 10 percentage points increases the debt-to-equity ratio by about 2.1 percentage points [5]. Similar findings are obtained by using data from the U.S. Bureau of Economic Analysis, which report that an increase in the tax rate by 10 percentage points is associated with an increase in leverage measured relative to the assets of the affiliated entity [15]. Furthermore, based on financial statement data of European companies, it was found that an increase in the marginal effective tax rate by 10 percentage points results in an increase in overall leverage by 2.59 percentage points [20]. In addition to internal financing through debt, researchers find that the financing structure of subsidiaries located in developing countries is more sensitive to tax incentives and that the marginal effect of a tax rate change on the financing structure is twice as high as in developed countries [18]. However, many previous studies, although finding effects on financial leverage and the total value of internal financing, consider these effects relatively small and insignificant mechanisms for profit shifting. A common explanation for such behavior is the numerous regulatory limitations on this type of financing.

This paper explores the strategic dimensions of transfer pricing by analyzing its commercial and financial impacts and assessing their influence on the performance of companies, both at the group level and within the parent company.

### Transfer Pricing in the Republic of Serbia: Sample and Data

In recent years, the economic development of the Republic of Serbia has heavily relied on foreign direct investments and partnerships with international companies [28, 31]. This increased the complexity of business organization and led to creation of new economic groups. The attractiveness of fiscal policy, characterized by relatively low corporate and value-added tax rates, along with tax exemptions and subsidies, shaped investor perceptions and influenced

decision-making processes, thereby boosting the inflow of foreign capital into the country [16]. Given that financial markets are still underdeveloped [23], capital placement often occurs directly through the organization of internal capital markets within the economic entities themselves. By adding other factors, such as transfer of technology, knowledge, the utilization of natural and human resources, and existing infrastructure, the challenge of valuing these transactions. i.e. determining the prices at which these goods, services, and capital are exchanged, is becoming increasingly important in our country.

Considering that the overall goal of connecting independent legal entities is economic interest and achieving superior results compared to those that would have been achieved in independent business activities, the following question arises: To what extent the price of internal transfers between related parties can affect the financial position and performance of the economic group? This research is not limited to the overall performance of economic group, but also examines the impact on the performance of the parent company that controls the group and, as such, plays the role of the main decision-maker in the group. It is precisely in this relationship between the consolidated and individual results of the company responsible for managing it, where the impact of commercial and financial aspects of transfer pricing on the performance of economic groups operating in the territory of the Republic of Serbia is being sought.

The sample includes economic groups whose parent companies are established in the Republic of Serbia and which, according to accounting regulations, were required to submit consolidated financial statements for the year 2022. A total of 664 economic entities, which include 2,173 dependent and affiliated legal entities within their consolidation circle, submitted correct consolidated reports. Considering the total number of economic groups, the number of economic units is not high, but their impact on overall economic trends is strong. This is clearly indicated by the fact that, in 2022, economic units realized slightly less than a third of the total revenues and expenses of the economy, while their share in the generated net profit and net loss of the economy was 30.6% and 28.8%, respectively. They also accounted for almost a third of the business

assets and capital of the economy, as well as a fifth of the total realized loss. The achieved results indicate the relevance of these groups as economic participants and the significant impact their performance has on overall economic activity.

From the total number of economic groups that operated in 2022 in the territory of the Republic of Serbia, the sample includes economic entities that met the following criteria:

- Accuracy of submitted financial statements,
- Legal form and status of parent companies (the sample includes legal entities characterized by corporate management forms with limited liability of members for the company's obligations, i.e., active parent legal entities established in the form of joint-stock companies or limited liability companies),
- Size of the parent company determined according to accounting regulations (based on the assumption that larger companies have more complex intercompany relationships, the sample includes economic groups whose parent companies are classified as large companies according to the financial statements for 2022. Large companies, unlike smaller ones, more frequently engage in significant intercompany transactions that can have implications for transfer pricing, thin capitalization, tax-favorable leases, financial arrangements, and consequently more complex flows between entities).

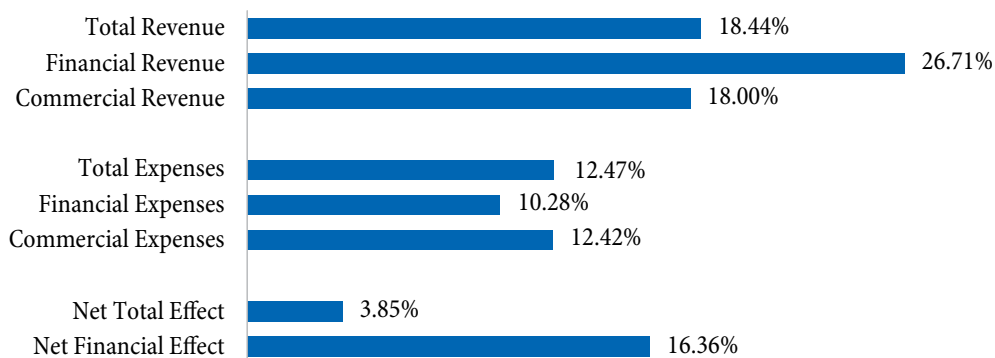
A total of 142 economic groups met the aforementioned criteria.

A selection of financial ratio analysis indicators is used to help identify the scope of internal transactions and

quantify the impact of these transactions on the profitability and financial position of the economic group and the entity managing it. Since the disclosure of information on transfer pricing is not a mandatory requirement for externally oriented financial reporting, the identification of intercompany transactions in the research is based on the balance sheet and income statement positions related to transactions between related parties. The greatest challenge has been identified on the side of commercial intercompany transactions, where existing balance sheet schemes do not prescribe a separate position for business revenues and expenses from transactions with related parties. To overcome the lack of information on operating revenues and expenses arising from transactions with related parties, the notes accompanying the financial statements were reviewed, and it was found that although the reporting practice regarding the disclosure of transactions with related parties varies, most parent companies in the sample disclose these transactions.

In the following, the disclosed intercompany commercial and financial relationships of parent companies with their subsidiaries are presented (see Figure 1). The relationships are measured as stake of intercompany revenues and expenses in total revenues and expenses reported by parent companies. On the revenue side, financial activities take 26.71%, while commercial activities take around 18% of total revenues indicating that with one quarter, i.e. one fifth in total revenues are impacted by the prices determined in intercompany transactions, leaving a significant space for parent companies' management team to administer transfer pricing and coordinate their decisions to diverse transfer pricing goals. On the other side, parent companies

**Figure 1: Related parties stake in revenue, expenses, net effects**



Source: Authors' calculations

have reported a slightly lower stake in total expenses with related parties, 10.28% for financial and 12.42% for commercial activities. On average, most parent companies from the sample have a positive outcome from commercial and financial activities.

The results show that the stake of net financial effects, compared to differences between financial income and expenses, is higher compared to the net effects from commercial activities. In other words, the company earns more profit from its financial activities than from its core commercial activities. The lower net effects from commercial activities could mean that part of the profit from commercial transactions is being transferred elsewhere as part of company's strategic efforts to optimize their business process and improve overall profitability. The lower profitability in commercial activities could imply that some of the profits is being shifted to related entities in different jurisdictions with more favorable tax conditions. Additionally, the company might be allocating more resources to financial activities, potentially at the expense of its commercial operations, due to strategic shift or a temporary focus on capitalizing favorable financial market conditions. Alternatively, the parent company might be strategically diversifying its income sources to reduce dependency on its primary business, leading to lower commercial net effects.

In the next step, this research seeks the impact of transfer pricing in the difference of performance indicators between the parent company and the economic group that parent company has control over. In order to examine the impact of commercial and financial internal activities on the overall performance of the parent company and of its economic group, a set of indicators has been calculated. The ratios are as follows (see Table 1):

Focusing on financing activities, the research indicates that average debt level of parent companies was lower compared to the average debt at the economic group level. This finding suggests that the internal capital market within the group was effectively utilized where capital among the entities within the group was redistributed. This could be a strategic move to leverage debt for growth and expansion while maintaining lower debt levels at the parent company level to present a stronger financial position. Overall, the utilization of the internal capital market highlights the group's ability to manage its financial resources efficiently, by reducing the need for external financing and optimizing the allocation of resources, while balancing the benefits of internal funding with the implications of higher leverage.

On the other hand, the results regarding the profitability of the parent company and its economic group are not conclusive. From the perspective of operating activities, the research indicates that the economic group, on average, was more profitable than the parent company. This suggests that the group's collective operations generated higher returns. However, when examining the net profit margin, the research reveals that the parent company achieved a higher level of profitability. This indicates that, despite the group's overall operational success, the parent company managed to retain a greater proportion of its revenue as profit after accounting for all expenses. These findings highlight that both commercial and financial internal transactions can have significant impact on the performance of the parent company and the economic group.

The information outlined above is illustrated in more detail in the accompanying Table 2.

In this paper, empirical research is designed with a focus on examining the strategic management aspects of

**Table 1: Differences in performance ratios between parent company and its economic group**

|                         | Range    | Minimum  | Maximum  | Mean     | Std. Deviation |
|-------------------------|----------|----------|----------|----------|----------------|
| D/E                     | 27.05694 | -1.77676 | 25.28018 | 0.605845 | 3.366883399    |
| Capital Turnover Ratio  | 110.0749 | -24.7916 | 85.28325 | 0.732284 | 7.575951494    |
| Operating Profit Margin | 1.45627  | -0.52952 | 0.92675  | 0.005758 | 0.101837043    |
| Net Profit Margin       | 1.1382   | -1.05589 | 0.08231  | -0.01553 | 0.092146405    |
| ROA                     | 0.31398  | -0.14008 | 0.1739   | -0.00385 | 0.027299549    |
| ROE                     | 7.92418  | -0.67623 | 7.24795  | 0.07504  | 0.743462234    |

Source: Authors' calculations

Note: The difference is calculated as group's indicator minus parent company's indicator

transfer pricing on achieving the common interests of legal entities grouped within economic groups, i.e., examining the impact of intercompany transfers on the potential to strengthen the position of the entire group compared to the possibilities available to the parent company as an individual entity. The research is addressing the following question: What is the impact of the commercial and financial effects of internal transfers on the achieved difference in the performance of the group and the performance of its parent company? The parent company, placed at the center of business decision-making at both the individual company and economic group levels, has a key role in identifying additional sources of value from integrated operations and assessing their pricing components, i.e. in transfer prices. By understanding these interconnected activities, we can gain deeper insights into the factors driving profitability and identify potential areas for improvement.

## Research Methodology and Findings

This paper examines the combined effects of commercial and financial aspects of transactions between related parties on the performance of the group and its parent company. Aiming to identify the impact of internal transfers, the model is based on making comparisons between results achieved by economic group and results achieved by its parent company. A binary logistic regression (LOGIT) model is developed to model the probability that the performance of the economic group is superior to the performance of the parent company, due to the fact that more strategic options are available to the group in comparison to the alternatives available to the parent company, presuming it conducted its business independently. From a statistical standpoint, a binary logistic model is used to model the

probability that an event, one of two possible alternatives, will occur, where the logarithm of the event's probability is calculated as a linear combination of one or more independent variables. In binary logistic regression, the dependent variable can only be binary, taking two values denoted as "0" and "1", which indicate failure and success, respectively. In this paper, the variables are coded as "0" if the selected indicator is lower at the group level compared to the parent company's indicator (taking a negative value), and coded as "1" if the selected indicator achieves a positive value. On the other hand, predictors can be both categorical and continuous variables. In the model presented below, the variable related to the parent company's success is continuous, while the dependent variables related to commercial and financial aspects of transfer pricing are binary variables.

Starting from the net performance of parent company (measured by net profit rate), the model tests the impact of commercial effects of transfer prices (measured by differences in operating profit rate) and the impact of the financial effects of transfer prices (measured by the debt/equity ratio indicator) on the achieved difference in performance of the economic group and its parent company (measured by return on equity (ROE)). It is expected that a greater difference in the commercial and financial results between the group and the parent company will result in a higher probability that the performance of the group will be superior compared to the performance of the parent company.

In more details, the variables used in the research are calculated as follows:

Dependent Variable:

Y: A binary variable indicating the difference in the performance of the entity group, measured by ROE,

**Table 2: Overview of performance indicators per parent company and its economic group**

|                         | Parent Company |                | Economic Group |                |
|-------------------------|----------------|----------------|----------------|----------------|
|                         | Mean           | Std. Deviation | Mean           | Std. Deviation |
| D/E                     | 1.760795       | 2.176784       | 2.36664        | 4.051599       |
| Capital Turnover Ratio  | 5.218402       | 11.08164       | 5.950686       | 12.62857       |
| Operating Profit Margin | -0.15255       | 2.704012       | -0.14679       | 2.626254       |
| Net Profit Margin       | -0.08638       | 1.992314       | -0.10191       | 2.079719       |
| ROA                     | 0.092358       | 0.094136       | 0.088508       | 0.093423       |
| ROE                     | 0.221857       | 0.327529       | 0.296896       | 0.904366       |

Source: Authors' calculations

and the performance of the parent company, taking values 0 and 1:

- 0 if the ROE of the economic group < ROE of the parent company
- 1 if the ROE of the economic group > ROE of the parent company

Explanatory Variables:

X<sub>1</sub>: Net profit margin of the parent company (continuous variable)

X<sub>2</sub>: A binary variable indicating the difference in the debt-to-equity ratio (D/E) between the economic group and the parent company, taking values 0 and 1:

- 0 if the D/E of the economic group < D/E of the parent company
- 1 if the D/E of the economic group > D/E of the parent company

X<sub>3</sub>: A binary variable indicating the difference in the operating profit margin between the economic group and the parent company, taking values 0 and 1:

- 0 if the operating profit margin of the economic group < operating profit margin of the parent company
- 1 if the operating profit margin of the economic group > operating margin rate of the parent company

The following results are obtained (see Table 3):

Based on the obtained results, the following regression equation is presented:

$$\ln\left(\frac{p}{1-p}\right) = 0.952 + 3.855 X_1 - 1.157 X_2 - 1.359 X_3$$

Where p = P(Y=1), i.e., the probability that the dependent variable Y takes the value 1, or the probability that the ROE of the economic group is greater than the ROE of the parent company. This probability equals to:

$$P = \frac{1}{1 + e^{-(0.952 + 3.855 X_1 - 1.157 X_2 - 1.359 X_3)}}$$

Model Interpretation:

- Interpretation of β<sub>0</sub> (constant)
  - β<sub>0</sub> = 0.952 → If all explanatory variables take the value 0, the probability that the dependent variable Y takes the value 1, i.e., the probability that the ROE of the economic group is greater than the ROE of the parent company, equals  $\frac{1}{1 + e^{0.952}} = 0.278$ .
- Interpretation of β<sub>1</sub> (related to the profitability level of the parent company):
  - β<sub>1</sub>=3.855 → If the net profit rate of the parent company increases by 1, then  $\ln\left(\frac{p}{1-p}\right)$  will increase by 3.855, or  $\frac{p}{1-p}$  will increase by approximately 47.22 (assuming other explanatory variables remain unchanged). This means that the probability that the dependent variable Y takes the value 1 will also increase.

**Table 3: Logistic regression model summary**

| Model Summary |                      |                      |                     |
|---------------|----------------------|----------------------|---------------------|
| Step          | -2 Log likelihood    | Cox & Snell R Square | Nagelkerke R Square |
| 1             | 173.040 <sup>a</sup> | .154                 | .206                |

| Classification Table |                    |                        |                        |                    |      |
|----------------------|--------------------|------------------------|------------------------|--------------------|------|
|                      | Observed           | Predicted              |                        | Percentage Correct |      |
|                      |                    | ROE                    |                        |                    |      |
|                      |                    | group < parent company | group > parent company |                    |      |
| Step 1               | ROE                | group < parent company | 55                     | 17                 | 76.4 |
|                      |                    | group > parent company | 30                     | 40                 | 57.1 |
|                      | Overall Percentage |                        |                        |                    | 66.9 |

| Variables in the Equation |          |        |       |        |    |      |        |
|---------------------------|----------|--------|-------|--------|----|------|--------|
|                           |          | B      | S.E.  | Wald   | df | Sig. | Exp(B) |
| Step 1                    | X1       | 3.855  | 1.648 | 5.473  | 1  | .019 | 47.220 |
|                           | X2       | -1.157 | .391  | 8.754  | 1  | .003 | .314   |
|                           | X3       | -1.359 | .403  | 11.383 | 1  | .001 | .257   |
|                           | Constant | .952   | .365  | 6.816  | 1  | .009 | 2.592  |

- Interpretation of  $\beta_2$  (related to the effects of financial effects):  
 $\beta_2 = -1.157 \rightarrow$  If  $X_2$  takes the value 1, i.e., the D/E of the economic group is greater than the D/E of the parent company, then  $\ln\left(\frac{p}{1-p}\right)$  will be lower by 1.157 compared to cases where  $X_2$  takes the value 0 (assuming other explanatory variables remain unchanged).
- Interpretation of  $\beta_3$  (related to the effects of commercial effects):  
 $\beta_3 = -1.359 \rightarrow$  If  $X_3$  takes the value 1, i.e., the operating profit rate of the economic group is greater than the operating profit rate of the parent company, then  $\ln\left(\frac{p}{1-p}\right)$  will be lower by 1.359 compared to cases where  $X_3$  takes the value 0 (assuming other explanatory variables remain unchanged).

The research indicates that the greater the profitability of the parent company, the greater the overall success of the entire economic group. A parent company that demonstrates higher profitability is often better positioned to make strategic decisions that enhance the performance of the entire group. Consequently, the greater the profitability of the parent company, the higher the likelihood that the economic group will be more profitable. By exerting control, a successful parent company is likely to be in a position to implement unified policies across all subsidiaries, ensuring consistency and efficiency, effectively allocating resources across the group, leveraging its position to negotiate better commercial and financial terms and having a stronger oversight and governance ensuring that subsidiaries adhere to best practices and regulatory requirements. Furthermore, regarding total debt, the study highlights that parent companies operating within internal financial markets possess greater flexibility to conduct financial transactions that might have been unavailable if they operated as standalone entities. This increased financial capacity can result in a higher debt-to-equity (D/E) ratio at the group level. The study indicates that when the D/E ratio is higher for the group than for the parent company alone, the probability of higher overall profitability of the group in comparison to its parent tends to decrease. This result could be attributable to the economic group reaching its

maximum level of indebtedness. At this point, the negative effects of financial leverage, such as higher debt financing costs, increased risks, and operational constraints, can deplete resources and become a significant burden on the group. In such scenarios, financial leverage at the group level negatively impacts the group's performance. When viewed from parent's perspective, a parent company that relies on a lower leverage is better positioned to manage the entire group in a manner that enhances overall profitability. By maintaining a more conservative debt-to-equity ratio, the parent company can exert more effective financial control and stability across the group that support sustainable growth and profitability for the entire economic group. Lastly, the model illustrates the commercial effects of intercompany transactions, revealing that a higher overall operating margin does not necessarily mean a better performance for the entire group. This finding shows that while intercompany transactions may lead to higher group operating margins, they do not always translate into better group performance. From a commercial standpoint, when viewed from the parent company's perspective, the stronger the parent company, the higher the probability that the economic group will perform better. This suggests that the parent company's strength and strategic management play a crucial role in driving the overall success of the group, beyond just the operating margins.

## Conclusion

The aim of the presented research is to investigate the strategic implications of transfer pricing on financial performance. The study examines whether commercial intercompany transfers and intercompany financing policies serve as instruments for achieving the strategic goals of the company, resulting in superior performance. By focusing on the differences in profitability achieved by the group and its parent company, the research aims to provide evidence that a strategic approach to transfer pricing management leads to superior group performance compared to the performance that the parent company, as an individual entity, would achieve in its operations.

The study illustrates that commercial and financial effects, measured by the difference in operating profit margins and the difference in debt levels between the economic group and the parent company managing it, show a negative relationship with the achieved difference in performance between the group and its parent company, measured by the difference in return on equity (ROE). Although this finding may seem surprising at first glance, it actually highlights several key insights. Firstly, a stronger parent company is more likely to implement effective strategies and make decisions that positively influence the entire group's performance. This is because a strong parent company can leverage its resources, expertise, and market position to drive growth and profitability across the group. Secondly, the negative relationship between the differences in operating profit margins and debt levels and the performance difference suggests that higher leverage and operating margins at the group level do not necessarily translate into superior performance of the group. Instead, these factors may introduce financial strain and inefficiencies that detract from the group's overall profitability. Lastly, it is important to consider the context in which this research is applicable. The results could be partially attributed to the fact that the study is conducted in a country characterized by a relatively underdeveloped capital market. In such environments, the ability of the parent company to effectively manage and allocate resources becomes even more critical to the success of the entire group. The underdeveloped capital market may limit external financing options, making the internal financial management and strategic decisions of the parent company even more crucial.

In summary, the study highlights the importance of the parent company's strength and strategic management in driving the overall success of the economic group. While higher operating margins and leverage at the group level may seem advantageous, they do not always lead to better performance. Instead, the parent company's ability to leverage its resources and expertise plays a crucial role in achieving superior group performance, especially in countries with underdeveloped financial markets such as Republic of Serbia.

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