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THE ALGORITHM FOR FORMING TRANSFER PRICES IN TRADE ENTERPRISES AND THEIR ROLE IN SEGMENT REPORTING

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Abstract. *This article examines the theoretical and practical aspects of forming transfer prices in trade enterprises. The economic essence of transfer pricing and its role in management accounting and segment reporting are analyzed. Methodological approaches to determining transfer prices are studied based on international practices, particularly the principles set out in IFRS 8* "Operating Segments" *and the* OECD Transfer Pricing Guidelines. *An algorithm for determining transfer prices under the* arm's length principle *is developed and analyzed in terms of its applicability for assessing the segment efficiency of trade enterprises.*

The research results provide analytical foundations for optimizing internal pricing policies, ensuring fair profit allocation among profit centers, and supporting managerial decision-making. Furthermore, the paper proposes recommendations for aligning Uzbekistan's transfer pricing practices with international standards.

Keywords: *transfer pricing, segment accounting, IFRS 8, OECD, arm's length principle, management accounting, profit center, internal pricing policy, algorithm, trade enterprise.*

SAVDO KORXONALARIDA TRANSFERT NARXLARNI SHAKLLANTIRISH ALGORITMI VA ULARNING SEGMENTAR HISOBDAGI AHAMIYATI

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SamISI tayanch doktoranti

Annotatsiya. *Mazkur maqolada savdo korxonalarida transfert narxlarni shakllantirish jarayonining nazariy va amaliy jihatlari yoritilgan. Transfert narx tushunchasining iqtisodiy mohiyati, ularning boshqaruv hisobi va segmentar hisobotdagi o'rni tahlil qilinadi. Xalqaro tajriba, xususan IFRS 8 "Operating Segments" standarti va OECD Transfer Pricing Guidelines hujjatlarida belgilangan tamoyillar asosida transfert narxlarni shakllantirishning uslubiy yondashuvlari o'rganilgan. Tadqiqotda bozor sharoitiga moslik ("arm's length") prinsipi asosida transfert narxlarni aniqlash algoritmi ishlab chiqilgan hamda u* *savdo korxonalarining segmentar samaradorligini baholashda qo'llash imkoniyatlari tahlil qilingan.*

Tadqiqot natijalari savdo korxonalarida ichki narx siyosatini optimallashtirish, foyda markazlari bo'yicha natijalarni adolatli taqsimlash va boshqaruv qarorlarini qabul qilishda analitik asos yaratish imkonini beradi. Shuningdek, maqolada O'zbekiston amaliyotida transfert narx siyosatini xalqaro standartlar bilan uyg'unlashtirish bo'yicha takliflar ishlab chiqilgan.

Kalit so'zlar: *transfert narx, segmentar hisob, IFRS 8, OECD, bozor sharoitiga moslik prinsipi, boshqaruv hisobi, foyda markazi, ichki narx siyosati, algoritm, savdo korxonasi.*

АЛГОРИТМ ФОРМИРОВАНИЯ ТРАНСФЕРТНЫХ ЦЕН В ТОРГОВЫХ ПРЕДПРИЯТИЯХ И ИХ ЗНАЧЕНИЕ В СЕГМЕНТНОМ УЧЁТЕ

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Аннотация. *В статье рассмотрены теоретические и практические аспекты формирования трансфертных цен в торговых предприятиях. Проанализирована экономическая сущность трансфертного ценообразования и его роль в управленческом и сегментном учёте. Изучены методологические подходы к определению трансфертных цен на основе международной практики, в частности принципов, установленных в стандарте* IFRS 8 «Операционные сегменты» *и* Руководящих принципах ОЭСР по трансфертному ценообразованию. *Разработан алгоритм определения трансфертных цен в соответствии с принципом «в условиях рыночной независимости»* (arm's length) *и проведён анализ его применимости при оценке сегментной эффективности торговых предприятий.*

Результаты исследования позволяют создать аналитическую основу для оптимизации внутренней ценовой политики, справедливого распределения прибыли между центрами прибыли и обоснованного принятия управленческих решений. Также предложены рекомендации по гармонизации политики трансфертного ценообразования в Узбекистане с международными стандартами.

Ключевые слова: *трансфертное ценообразование, сегментный учёт, IFRS 8, ОЭСР, принцип рыночной независимости, управленческий учёт, центр прибыли, внутренняя ценовая политика, алгоритм, торговое предприятие.*

Introduction.

In a market economy, the efficiency of business entities largely depends on their internal management systems, particularly on how effectively segment reporting and transfer pricing policies are organized. Transfer prices are internal prices used to evaluate the exchange of goods, services, or resources between divisions of a trading enterprise. These prices directly affect the company's overall financial performance, profit distribution, and tax base.

In recent years, with the expansion of large retail chains, holdings, and corporate groups in Uzbekistan, managing and accounting for transfer prices has become increasingly important. Ensuring fair pricing in international trade operations and preventing artificial profit shifting are now key priorities in the country's tax policy and financial reporting systems. Segment reporting, formed in accordance with IFRS 8 *"Operating Segments"*, allows entities to disclose income and expenses by individual activity areas. Therefore, developing an algorithm for transfer pricing and integrating it with segment reporting serves as an important tool for informed managerial decision-making.

The research aim is to develop an algorithm for forming transfer prices in trading enterprises and analyze their significance in segment reporting. The scientific novelty of the study lies in systematizing the economic foundations of transfer pricing in trading enterprises and proposing an algorithmic model that integrates international and national approaches.

Literature review.

The theory of transfer pricing began to evolve in the mid-20th century alongside the rise of multinational corporations and was initially studied as a tool for tax optimization. According to the OECD *Transfer Pricing Guidelines for Multinational Enterprises and Tax Administrations (2022)*, transfer prices are defined as "the internal accounting prices determined in a manner consistent with conditions that would be established between independent enterprises" [1]. This document promotes the *arm's length principle*, recommending that intra-group transactions be priced as if they were conducted between unrelated parties.

IFRS 8 *"Operating Segments"* requires entities to identify operating segments and disclose financial results separately for each, thus linking segment reporting to management accounting and increasing the objectivity of transfer pricing policies [2].

In local literature, researchers such as A. Mamatqulov, B. Tursunov, and D. Ganiev emphasize the need to separate cost centers and profit centers when forming internal pricing policies [3][4][5]. However, Uzbekistan still lacks a dedicated national standard for transfer pricing, making it necessary to adapt international experience to local conditions.

Research methodology.

The following approaches were used in the study:

- *System analysis* – to study transfer pricing formation in relation to internal structure, segment activity, and financial performance;
- *Comparative analysis* – to identify differences between international (OECD, IFRS 8) and Uzbek practices;
- *Model-based (algorithmic) approach* – to express the process of forming transfer prices through a mathematical-information model.

The research stages are as follows:

1. Identification of segmental income and expense structure;
2. Evaluation of inter-segment flows (volume of internal sales and resource exchanges);
3. Determination of transfer price ranges based on the arm's length principle;
4. Development of the algorithm for forming transfer prices;
5. Integration of the algorithm into segment reporting and management accounting systems.

This methodology not only outlines the theoretical framework of transfer pricing but also provides a practical calculation mechanism, allowing fair evaluation of segmental performance and optimization of the tax base [6].

Analysis and discussion.

In trading enterprises, the system of forming transfer prices not only regulates internal economic relations but also serves as an important source of information for evaluating the performance of segments. In practice, transfer prices act as "intermediate prices" that substitute for internal markets, helping to allocate economic results among profit centers, cost centers, and investment centers.

When segment reporting is implemented in trading organizations, the focus is placed on internal processes within complex organizational structures, the movement of costs between departments, the reliability of internal reporting, and the evaluation of the efficiency of various segments from the standpoint of the organization's overall interests.

In many cases, it is difficult to reliably assess the effectiveness of cooperation among organizational departments. In such situations, ensuring transparency in internal operations and maintaining organizational efficiency become more complicated. One of the key mechanisms for regulating interactions among segments (responsibility centers) is the transfer pricing system. This is the process of determining internal settlement prices between organizational segments.

Transfer pricing is not only a necessity but also an essential condition for the effective functioning of an organization. Without a well-developed transfer pricing system, a company may lose its relevance in a highly competitive and rapidly changing market. Transfer prices arise wherever the transfer of goods and services occurs within an organization. Therefore, internal trade represents a natural economic prerequisite for establishing a transfer pricing system.

The transfer pricing process includes three important elements that play a decisive role in effectively organizing internal financial relationships. The following diagram systematically summarizes the content of these elements (Figure 1).

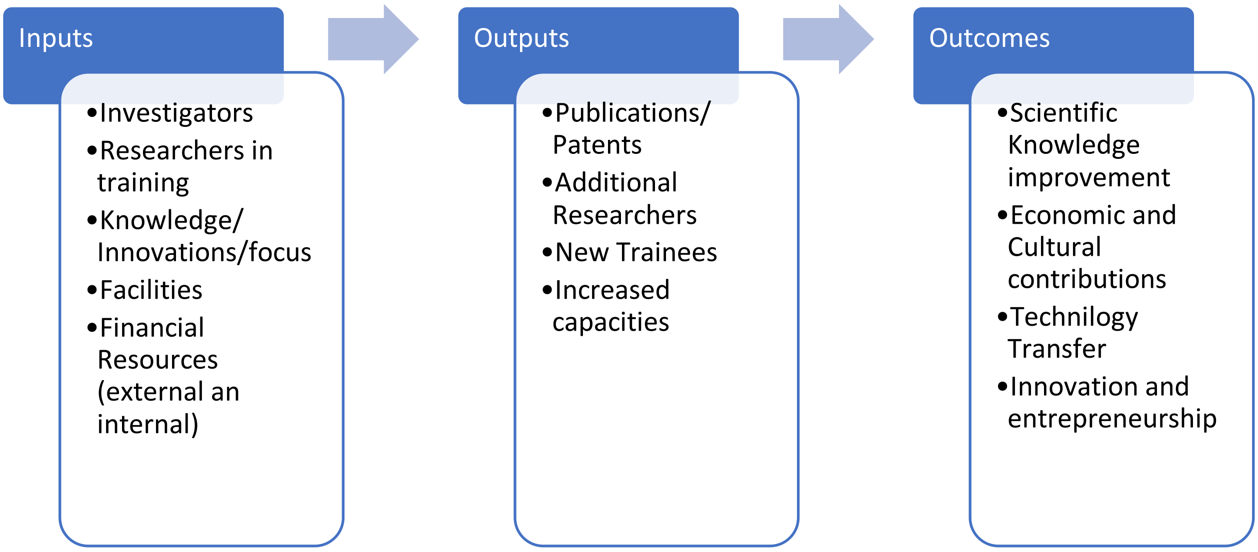

Figure-1. The transfer pricing process.
Source: *Compiled by the author based on OECD Transfer Pricing Guidelines.*

In trading enterprises, the practical mechanism for forming transfer prices should be designed to ensure consistency and alignment between international standards and national accounting practices. This approach is essential for maintaining transparency, comparability, and fairness in financial reporting and internal management evaluations. Internationally, the determination of transfer prices is primarily based on the Arm's Length Principle (ALP), which serves as the cornerstone of global transfer pricing regulations.

According to this principle, internal transactions between entities belonging to the same corporate group must be evaluated under economic conditions equivalent to those applied to transactions between independent and unrelated enterprises. In other words, the prices charged for goods, services, or intangible assets in intra-group transactions should reflect market-based terms that would have been agreed upon by independent parties.

The Arm's Length Principle ensures that profits are appropriately allocated among group entities according to the value they create, thus preventing artificial profit shifting and tax base erosion. Compliance with this principle not only enhances the credibility of financial statements but also strengthens the organization's reputation in the international business environment.

The OECD Transfer Pricing Guidelines (2022) recommend five main methods for applying this principle in practice:

1. Comparable Uncontrolled Price (CUP) Method – determines the price by comparing it with the price of similar transactions between independent parties.

2. Cost Plus Method – adds a markup (profit margin) to production or service costs to determine the transfer price.

3. Resale Price Method – determines the transfer price by subtracting the reseller's margin and related costs from the resale price of the product.

4. Transactional Net Margin Method (TNMM) – uses comparable profit indicators (such as operating margin) to determine the transfer price.

5. Profit Split Method – allocates total profit among segments based on their functional contribution to the transaction.

In trading enterprises, the Cost Plus and Resale Price methods are generally considered the most appropriate, as they align internal transfers of goods and services with market prices, create fair internal economic indicators, and maintain a balance of interests among profit centers.

Although Uzbekistan does not yet have a specific national standard regulating transfer pricing, certain provisions of the Tax Code and accounting regulations partially govern such relationships. Therefore, adapting international approaches to the national accounting system remains an urgent task.

This algorithm represents the sequential stages of the transfer pricing determination process in trading enterprises. At the initial stage, the *business segments* are identified based on the nature of their activities, the type of goods or services provided, and their functional responsibilities within the organization. Subsequently, both *internal transactions* among these segments and comparable *market transactions* with independent entities are analyzed in order to establish a reliable basis for pricing.

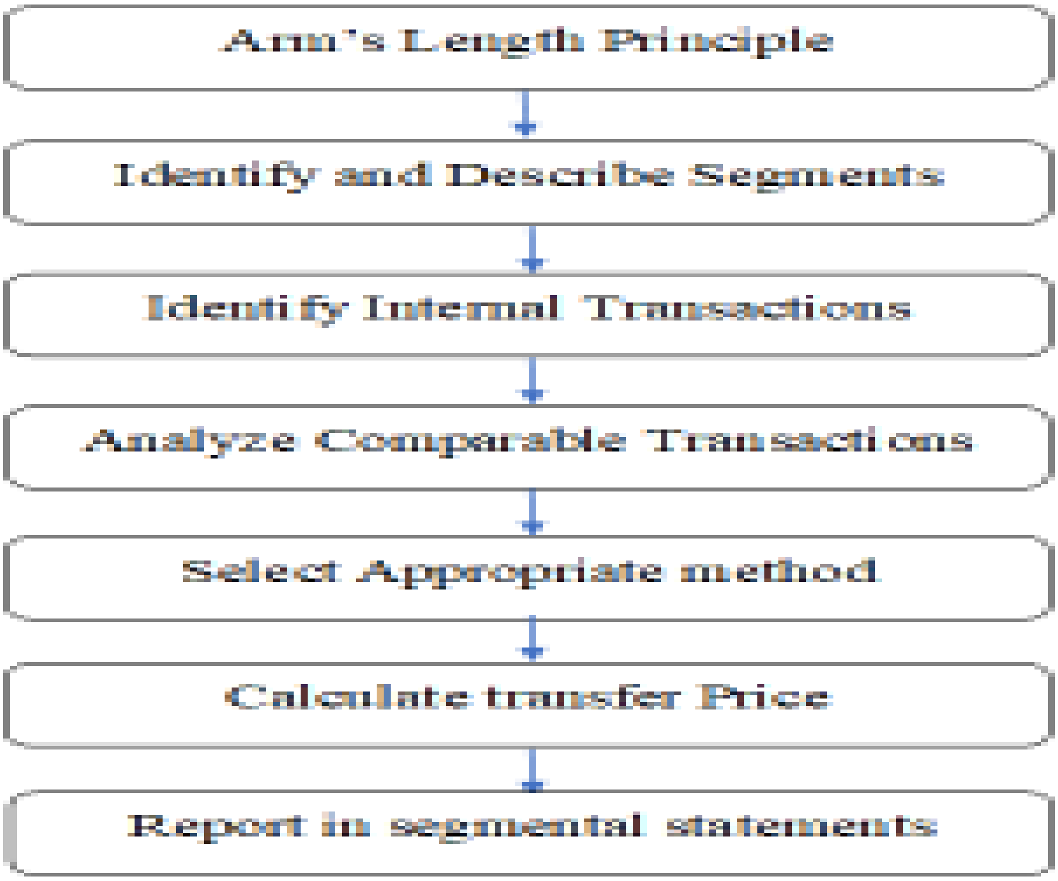

Figure-1. General algorithm of transfer price formation in trading enterprises

Source: *Compiled by the author based on OECD Transfer Pricing Guidelines.*

Following the analysis, an appropriate *transfer pricing method* is selected in accordance with the recommendations of the *OECD Transfer Pricing Guidelines (2022)*. The selected method—such as the Cost Plus, Resale Price, or Transactional Net Margin Method—is then applied to calculate the transfer prices for inter-segment transactions.

The computation results are reflected in the organization's financial statements in compliance with the requirements of *IFRS 8 "Operating Segments."* This ensures that segment information is presented transparently and that the internal pricing system contributes to fair performance measurement across responsibility centers.

In the final stage, *continuous monitoring* is conducted to assess whether the established transfer prices remain consistent with prevailing market conditions. Additionally, the monitoring process evaluates the *efficiency and profitability of individual segments,* helping management identify potential imbalances and make informed strategic decisions to enhance overall organizational performance.

Conclusion and recommendations.

The results of the conducted research show that the formation of transfer prices in trading enterprises serves not only as a tool for regulating internal economic relations but also as an integral element of the *segment reporting system*. Transfer prices enhance the transparency of economic interactions between company segments, enable fair evaluation of the performance of each profit center, and serve as a key source of information for managerial decision-making.

The *developed algorithm for transfer price formation* in this study provides the following opportunities for trading enterprises:

• bringing inter-segment internal operations closer to market-based principles;

• ensuring a fair allocation of profits and expenses across different segments;

• disclosing the financial results of internal trade in compliance with the requirements of *IFRS 8 “Operating Segments*”;

• reducing discrepancies between tax and financial reporting;

• improving the efficiency of analytical decision-making in corporate management.

Moreover, determining transfer prices based on the *Arm’s Length Principle (ALP)* should also be implemented in the practice of Uzbekistan. Currently, the absence of a national standard regulating transfer pricing has led to the application of diverse approaches across enterprises. Therefore, the integration of international practices into the national accounting system — particularly through the development of a methodology based on *OECD recommendations* — is of crucial importance. In addition, the implementation of the Arm’s Length Principle in determining transfer prices should also be introduced into the practice of Uzbekistan [7]. Currently, the absence of a national standard regulating transfer pricing has led to inconsistent approaches among enterprises.

Based on the results of the conducted research, the following proposals are put forward:

1. Regulatory and Legal Recommendations

• Develop a separate *normative document or national standard* in the Republic of Uzbekistan regulating the procedure for determining transfer prices;

• Clearly define the *“Arm’s Length Principle”* ***in the*** *Tax Code* and establish practical mechanisms for its implementation;

• Fully align the requirements of *IFRS 8 “Operating Segments*” with the national accounting practice.

2. Practical Recommendations

• Further develop the *segment accounting system* in trading enterprises and expand the application of the *Cost Plus and Resale Price* methods in determining transfer prices;

• Introduce a *special analytical section* on transfer pricing in internal management reports;

• Integrate transfer pricing policies into *automated management systems (ERP, 1C, SAP)* to enable real-time monitoring and control of inter-segment transactions.

3. *Scientific and Methodological Recommendations*

• Introduce a separate academic discipline entitled "*Transfer Pricing and Segment Accounting*" in higher education institutions;

• Encourage *research institutions and professional accounting associations* to develop algorithmic models tailored to the practice of Uzbekistan;

• Establish *digital benchmarking analyses* of transfer pricing policies across trading enterprises to enhance transparency and comparability.

In general, the *integration of the transfer pricing formation algorithm into the segment accounting system* will significantly improve the internal management efficiency of trading enterprises, ensure the *fair allocation of profit*, and strengthen the *compliance of financial reporting with international standards*. This, in turn, will contribute to enhancing Uzbekistan's *competitiveness in the global economic system* and creating a *favorable business environment for foreign investors*.

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