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ВЕСТНИК

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NAS RK is pleased to announce that Bulletin of NAS RK scientific journal has been accepted for indexing in the Emerging Sources Citation Index, a new edition of Web of Science. Content in this index is under consideration by Clarivate Analytics to be accepted in the Science Citation Index Expanded, the Social Sciences Citation Index, and the Arts & Humanities Citation Index. The quality and depth of content Web of Science offers to researchers, authors, publishers, and institutions sets it apart from other research databases. The inclusion of Bulletin of NAS RK in the Emerging Sources Citation Index demonstrates our dedication to providing the most relevant and influential multidiscipline content to our community.

Қазақстан Республикасы Ұлттық ғылым академиясы "ҚР ҰҒА Хабаршысы" ғылыми журналының Web of Science-тің жаңаланған нұсқасы Emerging Sources Citation Index-те индекстелуге қабылданғанын хабарлайды. Бұл индекстелу барысында Clarivate Analytics компаниясы журналды одан әрі the Science Citation Index Expanded, the Social Sciences Citation Index және the Arts & Humanities Citation Index-ке қабылдау мәселесін қарастыруда. Web of Science зерттеушілер, авторлар, баспашылар мен мекемелерге контент тереңдігі мен сапасын ұсынады. ҚР ҰҒА Хабаршысының Emerging Sources Citation Index-ке енуі біздің қоғамдастық үшін ең өзекті және беделді мультидисциплинарлы контентке адалдығымызды білдіреді.

НАН РК сообщает, что научный журнал «Вестник НАН РК» был принят для индексирования в Emerging Sources Citation Index, обновленной версии Web of Science. Содержание в этом индексировании находится в стадии рассмотрения компанией Clarivate Analytics для дальнейшего принятия журнала в the Science Citation Index Expanded, the Social Sciences Citation Index и the Arts & Humanities Citation Index. Web of Science предлагает качество и глубину контента для исследователей, авторов, издателей и учреждений. Включение Вестника НАН РК в Emerging Sources Citation Index демонстрирует нашу приверженность к наиболее актуальному и влиятельному мультидисциплинарному контенту для нашего сообщества.

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**TO BE OR NOT TO BE:
TRANSFER PRICING AGGRESSIVENESS
IN THE ENTERPRISES OF KAZAKHSTAN**

Abstract. The purpose of the study is to determine the transfer pricing aggressiveness index in the system of MNCs and focuses on identifying the significant determinants of transfer pricing aggressiveness in the enterprises of Kazakhstan in order to develop policies and regulations. During the research six variables were tested, which are the size of the enterprise, performance of the company, the structure of the capital, intangible assets, and cash flow from operating activities. It was expected that all these variables are positively associated with transfer pricing aggressiveness, however we obtained only 3 variables that were statistically significant which are size of the firm, profitability of the firm and intangibles of the firm.

There are some limitations of the study, which are that the sample size is too small for this kind of research, there is no division of the companies for industries. Future research can be done taking into account these limitations.

Keywords: transfer pricing, size of the enterprise, performance of the company, the structure of the capital, intangible assets, and cash flow from operating activities, transfer pricing manipulations, transfer pricing aggressiveness.

Introduction. In the context of integration and globalization of the economy, there is a growth of multinational companies, followed by an increase in trade turnover between interrelated parties within the group of companies. The World Trade Organization estimates that about 50 percent of world trade is conducted by multinational corporations, which account for 25 percent of all production assets are owned by the 500 largest transnational enterprises. In this regard, Rossing (2017) states that multinational companies play an essential role in the global trading environment. Emmanuel (2002) suggested that the transfer pricing is the heart of multinational companies, as it aims to maximize the profit of the companies by shifting the profit to the countries with low tax tariffs [1].

Several studies of Eden (1983), Borkowski (1996), Emmanuel (1998) and Pfeiffer (1999) mentioned that multinational companies participate in various transactions in the group to which they belong [2]. Such transactions may be different; for example, companies may sell (exchange) goods or services, provide financial resources, or participate in research and development. Such transactions may differ from other market transactions as between independent parties because associate group entities may freely set a lower value for a product or service to reduce the amount of the tax base, thereby maximizing profits from the global market for their holding company. The price which is formed between related parties which differs from the actual market price which is based on the existing price scale in transactions between independent parties is controlled by OECD guidelines and is known as the transfer price.

According to Ernst and Young survey in 2016, the transfer pricing is one of the essential aspects of MNCs in international taxation [3].

Cools (2008) suggested that transfer pricing can also be used as a strategic tool for interrelated companies in their decision-making, implementation of the company's core business objectives, transfer of income from one company to another in order to reduce the tax base, to increase the revenue of subsi-

diaries operating in low-tax countries, to maximize consolidated profits and to enter new markets [5]. Transfer pricing includes the information of related companies into one universal management accounting system. This combination allows the reducing of inaccuracies in the calculation of the cost of goods and services, which will enable you to calculate the cost of production more accurately and make better decisions.

Eden (2017) explains that transfer pricing is an essential component of the new market mechanism. In recent years, business entities increasingly use the possibilities of transfer pricing as an instrument of regulation of economic relations. In the conditions of the market economy, transfer pricing operations have reached a qualitatively new level. Some researchers (Schiller 2006, Borkowski 2010, Matsui 2011, Rohde 2014) defined that many multinational firms resort to transfer pricing purposefully, considering it as the best instrument for optimization of the tax burden [6].

However, according to Keuschnigg and Devereux (2012), there is a challenging task for tax authorities to collect a corporate taxes from MNEs, because they shift profits from high tax countries to low tax ones, by doing so - MNCs reduce their tax liability. Rugman and Eden (2017) stated that to optimize their tax burden, MNE could use market imperfections through the tax avoidance strategies, such as financial maneuvers, tax deferrals and transfer pricing manipulations such as over or under-invoicing intra-firm transfers of intangibles or goods (services). By doing it, as Sikka and Willmott (2010) mentioned, MNEs' transfer pricing manipulation affects the distribution of wealth, risks, and quality of life [7].

According to WIDER Working Paper (2017), global revenue losses were at around US\$ 650 billion annually, from which one-third relate to developing economies. Clausing (2016) found out that by 2012, the US-headquartered MNCs shifted their profits to the low - tax jurisdictions between US\$ 77 billion and US\$ 111 billion. Sikka and Willmott (2010) stated that profit shifts from high - tax economies to the low - tax economies are mostly done under transfer pricing manipulations [8].

Examples of transfer pricing manipulations are cases of Apple Inc., Vodafone, Yukos, and others. For instance, during 2013, the U.S.Congress find out that Apple Inc. Avoided tax for US\$ 10 billion through transfer pricing manipulations. This case led to the rise of the government authorities' attention to such transfer pricing manipulations. According to Matei and Pirvu (2011) because of these transfer pricing manipulations, the primary goal of the government authorities is the protection of federal tax revenues [9].

The message is clear: there is a necessity of a new transfer pricing strategy, that would help MNCs to maximize their profits without harming the governments' national tax revenues. According to Rossing, Cools, and Rohde (2017), one of the possible solutions is to determine the significant determinants of transfer pricing aggressiveness, which will be capable to reduce the manipulations with transfer pricing.

According to PWC (2017), the transfer pricing system (as well as high-quality information support) is necessary, first of all, for large industrial enterprises, companies engaged in mass wholesale deliveries and companies operating in the extractive industries. Also, only large companies can afford the costs associated with the transition to a new method of management. This process is most indicative in the automotive, construction, oil and gas and pharmaceutical industries.

For example, Baker McKenzie (2018) mentioned that the problem of transfer pricing in the pharmaceutical market is the most urgent [10]. Large pharmaceutical companies engaged in the wholesale supply of medicines face the challenge of agreeing to transfer prices in cooperation with customs services (in the process of purchasing imported medicines) and transport services (in the process of supplying drugs). To solve this problem, companies are forced to combine the procurement and sales departments with customs and transport departments into a single transfer process, combining them into a unique information space, within which domestic prices for pharmaceutical products are formed. By engaging this system, suppliers and customers arise a solid transfer structure to implement an effective method of calculations.

Grambusch and Kosyan (2018) explained that a reasonable combination of control and freedom gives the most optimal results in the formation of the transfer pricing system. In this regard, the determination of the significant determinants of transfer pricing aggressiveness will eliminate the problem of information asymmetry in corporations and improving the quality of centralized decision-making. However, according to Jutila (2017), there is a dark side of such determination [11]. The enterprises will be required to create a new specific transfer pricing documentation, which will be by the new policy. Such innovations will lead to the emergence of new forms of control. New trends are forcing financial services to pay attention to the

conversion of global financial flows into the "numbers." The implementation of new policies by tax authorities poses particular challenges. The first challenge is to ensure the stability and unification of tax administration during the implementation of new systems and regulations. The second is the constant improvement of technical and personnel support of the tax authorities.

Although the process of determination of transfer pricing aggressiveness index has not been yet widely adopted by the business community, many companies have gained confidence that it is possible to have a faster and efficient workflow in cross-border trade which can help in improving overall customer experience without compromising the safety of sensitive information.

The aim of this article is justified by the lack of knowledge of the problem in the determination of transfer pricing aggressiveness index in the system of MNCs. The study focuses on identifying the significant determinants of transfer pricing aggressiveness in order to develop policies and regulations.

According to the transfer pricing academic background, all researches can be divided into two major groups, which are the tax area and corporate management area, which also could be divided into the following sub-areas:

First researches were done during the 1950 – 1960 years and were mainly focused on the corporate management area [12]. The theoretical investigations of that period are Dean (1955), Hirshleifer (1956), Argyris (1957) and Heflebower (1960). Also, during this period, the main theories of transfer pricing were formed, which are:

- a. Economic theory
- b. Mathematical theory
- c. Accounting theory
- d. Organizational Behaviour Theory
- e. Strategic Management Theory

	Transfer Pricing		
Corporate Management Area			Tax Area
Effective resource allocation			Tax minimization
Motivation of Managers			Tax compliance
			Tax control

Figure 1 – Transfer pricing research areas.

Source: done by the author.

The father of economic theory in the transfer pricing system is Hirshleifer (1956). He proposed that multinational enterprises set a goal to increase their profits by shifting the income from high-tax jurisdictions to low ones [13].

The mathematical theory was formed by Eccles (1985), he believed that a proper mathematical model would be able to determine the ideal transfer price that will be optimal for the enterprises.

The accounting theory followed the same goal as economic and mathematical theories. The first person who researched the topic of how transfer prices affect financial decisions through accounting theory prism was Solomons (1965) [14].

Grabski (1985) concluded that it was not enough to use economic or accounting theories to solve management problems, he proposed that it is necessary to look through organizational behavior theory because the compensation schemes of managers depended on companies revenues [15].

The last theory that was formed was the strategic management theory, which suggested to look at the whole enterprise rather than on separate divisions. This theory of firstly was proposed by Swieringa and Waterhouse (1982).

All these theories considered only theoretical background, but it should be mentioned that these theories played a significant role as a basis for empirical researches.

As it was mentioned earlier, the theoretical studies were mainly focused on corporate management area of transfer pricing, while the empirical studies are focused on the tax area. In 1997 Hines conducted empirical research, and his research question was whether the companies in low-tax jurisdictions were

more profitable than companies in high-tax jurisdictions. Hines stated that there was a negative correlation between firm profitability and tax rates [16].

Another group of researches (Hines and Rice, 1990; Harris et al., 1993; Grubert and Mutti, 1991; Bartlesmann and Beetsma, 2000; Pfeiffer et al., 2007; Plesner et al., 2013; Beer et al., 2017; Wu and Lu, 2018) tested whether multinational companies used foreign direct investment or profit-based measures in order to shift income from a high level of taxes to low ones. These studies provided only indirect evidence of transfer pricing manipulations [17].

However, the most important empirical researches that have been made considering the transfer pricing manipulations were:

a. a. Eden (2003) was testing how product characteristics and market structures affect transfer pricing manipulations.

b. b. The research of Overesch M. (2006) investigated whether the transfer pricing of intra-company sales heavily depends on company tax planning. The empirical analysis that was done on German multinationals and considered the supposed tax response of intra-company sales directly [18].

c. c. The research of Hoonsawat R. (2007) has examined country sensitivity of transfer pricing as a result of differences in unilateral corporate tax rates to three factors described by the theoretical model: labor demand, capital endowment, and remoteness [19].

d. d. Bernard A., Jensen B., and Schott P. (2006). This research has provided some of the first evidence of the effect of exchange rates on pricing decisions inside and outside the firm [20].

Still, these researches play a vital role in transfer pricing manipulation studies.

Considering the transfer pricing aggressiveness index, the first empirical research was done by Richardson, Taylor, and Lanis (2013). They concluded that provision of specific documentation by management in regards to arm's length pricing contributes to a more effective tax administration and greater transparency of the transfer pricing rules to analysts, shareholders, and potential investors. The limitations of their study gave a gap for further research on this topic.

Methods. The factors that affect the transfer pricing aggressiveness are the size of the enterprise, performance of the company, the structure of the capital, intangible assets, and cash flow from operating activities. In order to test the impact of these variables on the transfer pricing, the following hypotheses were developed.

	SIZE			INTANGIBLE ASSETS					
PROFITABILITY		TRANSFER PRICING AGGRESSIVENESS		CASH FLOW FROM OPERATING ACTIVITY					
	LEVERAGE			TAX					

Figure 1 – Variables affecting the transfer pricing aggressiveness index.

Source: done by the author.

Hypotheses №1. There is a positive relation of the size of the firm with the transfer pricing aggressiveness in Kazakhstan.

According to Rego (2003), large companies may easily manipulate with transfer prices because they participate in a more significant amount of financial transactions and business operations. Taking into account Kiswanto and Purwaningsih (2015) the size of the firm affect the ability of the company to earn more profit through transfer pricing mechanisms [21].

Hypotheses №2. There is a positive relation of the profitability of the enterprise with the transfer pricing aggressiveness in Kazakhstan.

Taking into consideration such researches as Rego (2003), Mutti and Grubert (2009), Womack and Drucker (2011) and Duhigg and Kocieniewski (2012) we need to mention that they came to the conclusion that the more profitable is the firm, the more likely the company will shift the income from high tax rate jurisdictions to low ones.

Hypotheses №3. There is a positive relation of the capital structure of the with the transfer pricing aggressiveness in Kazakhstan.

Studies by Hines (1996); Richardson (1998), Cecchini, Leitch, & Strobel (2013), Newberry and Dhaliwal (2001); Rego (2003); Dyreng (2008); Eden (2010) mentioned that companies use the debt as an instrument to reduce tax liabilities [22].

Hypotheses №4. There is a positive relation of the intangible assets of the enterprise with the transfer pricing aggressiveness in Kazakhstan.

Grubert & Mutti (2007) mentioned that the relation between the intangible assets and transfer pricing aggressiveness plays an essential role in business operation.

Hypotheses №5. There is a positive relation of the cash flow from operating activity of the enterprise with the transfer pricing aggressiveness in Kazakhstan.

Taking into account the studies of Dechow et al., (1998), Hanlon (2005) and Kim (2011) it is considered that cash flows from operating activities are highly correlated with the tax avoidance. Usually, the MNCs use the CFOA in order to control the flows of the companies and monitor their performance.

The data for the research was collected from the official web-sites of the companies. In the study were used the annual reports with financial statements. The target of the study is FMCG companies, that are presented in Kazakhstan. Purposive sampling method is used in order to choose 6 FMCG-companies, which are Johnson Johnson, Proctor&Gamble, Kimberly&Clark, Uniliver, Beiersdorf and Colgate-Palmolive. This study uses financial statements of previously mentioned companies for the period from 2008 to 2018. For the research panel data regression will be used.

The following model represent the relationship between TAX (dependent variable) and SIZE, PROFIT, LEVERAGE, INTANGIBLES, CFOA and TP (independent variables). The model was created by Richardson et al. (2013) and during the research the model was modified by the researcher and additional variables were added.

$$TAX_{i,t} = \alpha_0 i_{i,t} + \beta_1 SIZE_{i,t} + \beta_2 PROFIT_{i,t} + \beta_3 LEVERAGE_{i,t} + \beta_4 INTANGIBLES_{i,t} + \beta_5 CFOA_{i,t} + \beta_6 TP_{i,t} + \varepsilon_{i,t} \quad (1)$$

Here, in the table 1, you may observe the description of the independent variables used in the research model.

Variables	Measurement	References
TP (transfer pricing aggressiveness) <i>DEPENDENT VARIABLE</i>	EBITDA/Interest paid	Clausing (2009), Klassen and Laplante (2012)
TAX <i>INDEPENDENT VARIABLE</i>	Income tax expense/ EBIT	Yuniasih, Rasmimi, & Wirakusuma (2012)
SIZE <i>INDEPENDENT VARIABLE</i>	Natural logarithm of total assets	Stickney and McGee (1982), Slemrod, 2001; Rego, 2003, Richardson and Lanis (2007), Richardson, G., Taylor, G., & Lanis, R. (2013), Waworuntu, S.R, Hadisaputra, R Pertanika (2016)
PROFIT <i>INDEPENDENT VARIABLE</i>	Natural logarithm of profit before tax	Mutti et al., (2009), Womack et al., (2011); Duhigg et al. (2012); Niresh & Velnampy (2014), Waworuntu, S.R, Hadisaputra, R Pertanika, (2016)
LEVERAGE <i>INDEPENDENT VARIABLE</i>	Total liabilities/total assets	Hines (1996), Newberry and Dhaliwal (2001), Rego (2003), Cecchini, Leitch, & Strobel (2013), Waworuntu, S.R, Hadisaputra, R Pertanika (2016)
INTANGIBLES <i>INDEPENDENT VARIABLE</i>	Natural logarithm of intangibles	Dyreng et al. (2008), Richardson, G., Taylor, G., & Lanis, R. (2013), Rotkowski (2015), Waworuntu, S.R, Hadisaputra, R Pertanika (2016)
CASH FLOW FROM OPERATING ACTIVITIES <i>INDEPENDENT VARIABLE</i>	Cash flow from operating activity/ total assets	Dechow et al., 1998, Hanlon (2005), Kim et al., 2011

Results. This part contains the results of the research.

Table 2 shows the descriptive statistics of the dependent and independent variables.

	Mean	Std. deviation	Minimum	Maximum
ID	3.5	1.720912	1	6
YEAR	2013	3.18651	2008	2018
SIZE	56505.21	53440.78	4459	157303
PROFIT	7802.545	6753.456	255	29251
LEVERAGE	7.482121	55.10068	.05	448.31
CFOA	1.757576	12.89965	.01	104.96
INTANGIBLES	10219.74	13367.68	119	53228
TAX	0.315	.3732158	-.26	3.09
TP	43.0003	57.19332	4.92	396

Observation of R2 showed a value about 0.5205 is able to account for 52% of variation in dependent variable TAX of companies in Kazakhstan.

Here in the table 3, the results of the test are presented:

Variables	Coefficient	Std. deviation	t-value	P> t
SIZE	.2965244	.0967805	3.06	0.275
PROFIT	-.7645487	.1007995	-7.58	0.003
LEVERAGE	.2467844	.1664638	1.48	0.000
CFOA	-1.053474	.7112261	-1.48	0.067
INTANGIBLES	.1224936	.0655011	1.87	0.144
TP	.0010307	.0009341	1.10	0.144
_cons	2.701925	1.052149		0.013
R2	0.5205			
F(6,54)	9.77			

Table 4, the result of the hypotheses testing.

Independent Variables	Expected sign	Hypothesis
SIZE	+	+
PROFIT	+	-
LEVERAGE	+	+
CFOA	+	-
INTANGIBLES	+	+

Discussion of the results. We can observe that 3 variables out of 5 gave us statistically significant results. The coefficient of the SIZE variable is positively associated with the transfer pricing aggressiveness, which supports our Hypotheses №1. The PROFIT coefficient is negative, which contradicts to our Hypotheses №2, so we reject to accept it. According to the researches of Mutti et al., (2009), Womack et al., (2011); Duhigg et al. (2012); Niresh & Velnampy (2014), Waworuntu, S.R, Hadisaputra, R Pertanika, (2016), the regression coefficient PROFIT showed only positive result. [23] They stated that the more profitable the company there is a high chance that it will use transfer pricing techniques to avoid taxes. According to the statistics of the Republic of Kazakhstan in 2018, it can be observed that the last 2 years the companies reported losses in their business activities. This can be one of the reasons, why we obtained negative results in our regression model. The Hypotheses №3, №4 and №5 show not significant results, which can result in modifying the current model in order to obtain better results, explaining the relation between the dependent and independent variables.

Conclusion. The purpose of the study is to determine the transfer pricing aggressiveness index in the system of MNCs and focuses on identifying the significant determinants of transfer pricing aggressiveness in order to develop policies and regulations.

During the research six variables were tested, which are the size of the enterprise, performance of the company, the structure of the capital, intangible assets, and cash flow from operating activities. It was expected that all these variables are positively associated with transfer pricing aggressiveness, however we obtained only 3 variables that were statistically significant which are size of the firm, profitability of the firm and intangibles of the firm.

There are some limitations of the study, which are that the sample size is too small for this kind of research, there is no division of the companies for industries. Future research can be done taking into account these limitations.

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БОЛУЫ НЕМЕСЕ БОЛМАУЫ: ҚАЗАҚСТАННЫҢ КӘСІПОРЫНДАРЫНДА ТРАНСФЕРТТІК БАҒА БЕЛГІЛЕУ АГРЕССИВТІЛЕГІ

Аннотация. Зерттеудің мақсаты ҰМН жүйесінде трансферттік баға белгілеу агрессиялық индексін анықтау және саясат және нормативтік актілерді әзірлеу мақсатында Қазақстан кәсіпорындарында трансферттік баға белгілеу агрессивтілегінің маңызды детерминанттарын анықтауға бағытталған. Зерттеу барысында кәсіпорынның өлшемі, компанияның қызметі, капитал құрылымы, материалдық емес активтер және операциялық қызметтен ақша ағымы болып табылатын алты айнымалы тестіленген. Барлық осы айнымалылар трансферттік баға белгілеу агрессивтілегіне оң әсерін тигізді деп күтілуде, алайда фирманың көлемі, фирманың кірістілігі және фирманың материалдық емес активтері болып табылатын статистикалық тұрғыдан маңызды үш айнымалылар ғана алдық.

Зерттеудің кейбір шектеулері бар, бұл зерттеулердің осы түрі үшін үлгі өлшемі өте аз, компаниялардың салалары үшін бөлінуі жоқ. Болашақ зерттеулер осы шектеулерді ескере отырып жүргізілуі мүмкін.

Түйін сөздер: трансферттік баға белгілеу, кәсіпорын өлшемі, компанияның қызмет етуі, капитал құрылымы, материалдық емес активтер және операциялық қызметтен ақша ағымы, трансферттік бағаларды айла-шарғы, трансферттік баға белгілеу агрессивтілегі.

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БЫТЬ ИЛИ НЕ БЫТЬ: АГРЕССИВНОСТЬ ТРАНСФЕРТНОГО ЦЕНООБРАЗОВАНИЯ НА ПРЕДПРИЯТИЯХ КАЗАХСТАНА

Аннотация. Цель исследования – определить индекс агрессивности трансфертного ценообразования в системе МНК и сосредоточиться на выявлении значимых детерминант агрессивности трансфертного ценообразования на предприятиях Казахстана с целью разработки политики и нормативных актов. В ходе исследования были протестированы шесть переменных: размер предприятия, результаты деятельности компании, структура капитала, нематериальные активы и поток денежных средств от операционной деятельности. Ожидалось, что все эти переменные положительно связаны с агрессивностью трансфертного ценообразования, однако мы получили только 3 статистически значимые переменные, которые включают размер фирмы, прибыльность фирмы и нематериальные активы фирмы.

Есть некоторые ограничения исследования, которые заключаются в том, что размер выборки слишком мал для такого рода исследований, нет разделения компаний по отраслям. Дальнейшие исследования могут быть сделаны с учетом этих ограничений.

Ключевые слова: трансфертное ценообразование, размер предприятия, результаты деятельности компании, структура капитала, нематериальные активы и поток денежных средств от операционной деятельности, манипуляции с трансфертным ценообразованием, агрессивность трансфертного ценообразования.

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