

PRACTICAL ASPECTS OF PUBLISHING TEXTBOOKS, PEDAGOGICAL/TEACHING AND METHODOLOGICAL GUIDES AND NORMALIZING THE COST OF MATERIALS*

Yuriy Safonov¹, Ievgen Bazhenkov², Svitlana Zayets³

Abstract. Taking into account the society's demand on the efficiency of budget funds management, further optimization of budget expenditures, improvement of the quality of educational services, the strategy of providing textbooks and manuals for students of general secondary education and teachers should be developed and approved, the problem of development of standards of paper consumption for the production of textbooks was solved. manuals for modern printing equipment and their approval. The research was carried out using general scientific methods, in particular, theoretical generalization, methods of statistical analysis, graphic method of visualization of research results. The purpose of the article is to identify the features of development of directions of regulation of publishing of educational literature in Ukraine on the basis of adaptation of European experience, to develop approaches to creation of a system of standardization of production costs of printed materials. It was found out that in modern scientific literature the debate on the justification of the ways of development of the publishing and printing sphere, the necessity of real state support and standardization of production costs of printed products continues. The authors studied the trends in book publishing in countries with a high level of education and a developed educational literature publishing industry, which determines the demand for books and the development of the publishing industry. Systematized and analyzed information on the printing of textbooks and teaching aids in Ukraine, outlined the problems associated with the need to control the spending of budget funds. It was found that the current system of publishing educational literature in Ukraine is characterized by an insufficient level of achievement of target indicators in the use of state budget funds intended for the production of book products. Characterization of the main principles of activity of the largest publishing houses of educational literature in Ukraine was carried out on the basis of the indicators of the total circulation of books and by order of the Ministry of Education and Science of Ukraine. The consequences of the armed aggression of the Russian Federation for the domestic book publishing industry are analyzed, which require a shift of the emphasis of effective management to optimization and cost minimization. Due to the outdated and imperfect system of rationing, the necessity of the scientific institution to carry out complex preparatory work on the legislative regulation of technical standards of costs and standards of material waste in the production of textbooks and educational-methodical aids has been determined.

Key words: textbooks, manuals, publishing houses, printing to order, foreign book publishing experience, development of cost norms and norms of material waste.

JEL Classification: H52, M11

1. Introduction

It is impossible to build a post-industrial information society without providing adequate quality education.

And the quality of secondary education fully depends on the level of providing students with textbooks and manuals to achieve their learning outcomes and

* The article is designed according to the scientific topic № 0122U002363

¹ State Scientific Institution "Institute of Education Content Modernization", Ukraine (*corresponding author*)

E-mail: sum1971@ukr.net

ORCID: <https://orcid.org/0000-0001-5623-1965>

² State Scientific Institution "Institute of Education Content Modernization", Ukraine

E-mail: Ispartak@ukr.net

ORCID: <https://orcid.org/0000-0003-0117-294X>

³ State Scientific Institution "Institute of Education Content Modernization", Ukraine

E-mail: zsv@bigmir.net

ORCID: <https://orcid.org/0000-0002-6133-1087>



This is an Open Access article, distributed under the terms of the Creative Commons Attribution CC BY 4.0

the formation of competencies necessary for life. Indicators of the production of printed products, primarily textbooks and teaching manuals, serve as indicators of the cultural, educational and intellectual development of the nation. If the decline in the publishing of educational literature continues, in the coming years it will significantly reduce the human and intellectual potential, the ability of Ukraine to restore and develop its economy, to rearm it technically and technologically.

In accordance with the Law of Ukraine "On Education", the state guarantees free provision of textbooks (including electronic), manuals for all students of general secondary education and teaching staff.

In compliance with the Procedure for the Use of Funds Allocated in the State Budget for the Implementation of State Measures in the Field of Education (The procedure for using the funds, 2020), each year expenses are planned for the printing of textbooks and manuals for students and teachers, for persons with special educational needs, for institutions of professional (vocational and technical) education, the series "School Library", dictionaries, pedagogical and methodical literature, conducting a competitive selection of textbooks for applicants to full general secondary and higher education, supply of textbooks, manuals, pedagogical and methodical literature and keeping reserve funds, etc.

In order to increase the volume of provision of educational literature, in recent years a tool has been created for transfers from the state budget to local budgets for general secondary education, which can be used for improving the qualifications of teachers (to the extent determined by the legislation), providing students and teachers with textbooks (manuals), educational equipment, teaching aids and for other purposes determined by the legislation (Londar, 2021).

The latest audit of the efficiency of the use of state budget funds allocated for the provision of textbooks, manuals, carried out by the Accounting Chamber of Ukraine (Decision of the Accounting Chamber, 2020) testified that the Ministry of Education and Science of Ukraine has not fulfilled the powers entrusted to it by legislation to ensure the needs of students of full general secondary education and teaching staff in educational literature in 2019 in accordance with the volumes specified in the normative acts, namely detailed calculations of the need for state budget funds for the provision of textbooks and manuals have not been carried out; due to the unresolved issue of the application of the norms for the cost of offset paper for the production of textbooks, manuals for modern printing equipment, an objective calculation of the cost of paper (as part

of the cost of textbooks) and control over the real costs of publishing houses is not ensured.

According to the experts of the Center for Economic Strategy (Repko, Sakhno, Teleton, 2020), the current situation on the textbook market in Ukraine looks better thanks to a number of measures implemented and planned in 2020–2021 aimed at increasing the efficiency of production of educational literature at all levels for institutions of secondary education.

However, the armed aggression of the Russian Federation, the resulting crisis phenomena in the economy radically change the assessment of the processes of domestic book publishing, require the development of new approaches to the management of available resources: the emphasis of effective management shifts to the optimization and minimization of costs. For the effective management of the publishing of educational literature there is a need for objective information, first of all, for the standardized accounting of the consumption of materials in the production of textbooks and educational-methodical aids.

The purpose of the work is to study the problematic aspects of the practice of publishing textbooks and educational/teaching manuals, to identify the peculiarities of the development of directions for regulating the publication of educational literature in Ukraine based on the adaptation of European experience, to develop approaches to the creation of a system of normalization of production costs for materials in printing, which will contribute to the possibility formation of relevant information for making effective management decisions on the economical use of budget funds.

2. Literature review

The publication of textbooks and pedagogical-methodical manuals in Ukraine requires systematic research and comprehensive measures that would contribute to its efficiency and control over the economical, productive and effective use of the allocated budget funds. Scientific works and practical activities do not pay due attention to the problematic issues of textbook publishing, increasing the efficiency of the production of educational literature.

In addition, most of the scientific works were developed before the Russia's armed attack and the economic crisis in the country, they do not provide recommendations for further development of the publication of educational literature in the special conditions of the country, in some sources the information is already somewhat outdated.

According to many scientists, publishing and printing is an important means of raising the cultural

and educational level of citizens, their education and mobilization to solve the most important tasks of economic and social nature, mastering the laws of social development, struggle for social progress, democracy and freedom (Durnak, Shtangret, Martyniv, Shlakheto, 2008).

The publishing and printing industry is very sensitive to the economic development of the country, acting as a kind of indicator of the socio-economic condition of the country. The reaction of the industry to changes in the economy is manifested after about six months. The unfavorable state of the Ukrainian economy aggravates the problems of the domestic publishing and printing industry (Shtangret, Durnak, Melnikov, 2010).

Calculations made by scientists showed that in 2005–2010 in the publishing and printing industry of Ukraine the material type of economic growth prevailed. The industry was at a crossroads where, on the one hand, there was growth without development and, on the other hand, growth based on development (Shvayka, Senkivskiy, Melnikov, 2012).

In modern scientific literature the discussion on the justification of the most effective ways of development of the publishing and printing sphere continues. The mission of industrial enterprises should be aimed at satisfying the interests of consumers of publishing and printing products, comply with the doctrine of information policy of the state, and contribute to the general strengthening of information security of the Ukrainian society (Prib, 2014).

The study of the prospects for the development of the printing industry and the factors affecting the development of the industry, the identification of the main problems faced by enterprises of the printing industry during the implementation of their activities in 2005–2012, revealed that the development of the printing industry had a clear trend of growth, a transition from printed products to digital media, and therefore the demand for printed products will be somewhat reduced (Dovgan, Vorzhakova, 2013).

The peculiarity of the publishing and printing business is a high degree of social responsibility due to the nature of the purpose of the products. The lack of real state support in the publishing and printing industry in Ukraine leads to the instability of the functioning of business entities, which affects their activities, provokes the deterioration of performance indicators, the decline of most enterprises of municipal and state ownership, which, in turn, does not provide opportunities for development (Palyha, Bazyluk, Palyha, 2019).

Analysis of current trends in the production of books and brochures in Ukraine in 2019–2020 shows that educational and methodical publications, scientific literature, fiction for children and adults

are preferred. However, there is a need to solve at the state level the issue of systematic preferential lending to the subjects of the industry, attracting investments from other areas of business to its development on conditions favorable to partners, established in legislative acts (Buryak, 2021).

One of the trends in the modern book publishing market is printing on demand. This model, as one of the innovative solutions, allows to control the costs of printing and storage of literature, helps to react quickly to the demand, to avoid or save risky investments, to control the market situation (Onyshchuk, Tatarinova, 2021).

The cost accounting of the production of printed products is also in the focus of domestic scientists and requires further research on theoretical and practical issues (taking into account the improvement of production technologies and management sciences).

According to scientists (Drury, Horngren, Foster, etc.), one of the main ways to reduce costs in enterprises is to create a system of their effective management. However, the issue of cost management of enterprises in the publishing and printing industry is still not considered at the appropriate level, which requires its further improvement (Sosnovska, Zhydetska, 2016).

Insufficient study of the problems of the production of textbooks by the technologically obsolete polygraphic method and the validity of the norms of material consumption leads to inefficient spending of the budget funds for printing of textbooks, purchase of the necessary raw materials and their delivery (Report on the review of the state budget expenditures in the sphere of education and science in view of the national activities in the sphere of education of the Ministry of Education and Science of Ukraine, 2021).

3. Key statement generalization

Studies of textbook publishing abroad strongly suggest that domestic publishers face many more challenges than textbook publishers in other countries.

In many countries, publishers really support modern authors, make efforts to improve their products, and teachers are conscious about the choice of textbooks.

In the USA, the specific weight of expenditures on printed textbooks in the structure of budgetary expenditures on education is negligible. Out of the total amount of 550 billion dollars spent annually on education in the United States, about 5 billion (1%) was spent on printing textbooks. However, precisely because of the lack of budget funds for printing textbooks, the administration of the American states of California and Texas announced plans to abandon printed textbooks in favor of electronic books (Polyansky, 2010).

In Poland, the program of providing textbooks at the expense of the budget provides for free provision of textbooks and teaching aids for all students of primary (elementary) schools. The school buys them with funds provided by the Ministry of National Education – for example, in 2018, 404 million zlotys were allocated for these purposes, and in 2019, 286 million zlotys (Glushko, 2021).

In the Netherlands, there is a free market for the development and distribution of textbooks. Publishers focus on primary and/or secondary education and/or vocational, higher or academic education. There is no regulation of textbooks. Publishers compete with each other and sell textbooks themselves.

In the Netherlands, textbooks are chosen by the schools themselves. In primary school, the whole team of teachers usually makes the decision to adopt a new textbook. In secondary education, the teachers of a subject (the so-called "section") usually decide which new textbook will be adopted. The director's role is mainly economic: textbooks must be paid for by the school, which receives money from the Ministry of Education, Culture and Science, so the price of the textbook is an important criterion for acceptance. However, directors usually do not interfere in the decisions of the section.

However, schools receive support in the selection process. The National Textbook Information Center, which is an agency of the Ministry of Education, Culture and Science, provides on its website information about all textbooks regarding the content (especially the coverage of the curriculum), the offer on the market and some pedagogical and didactical features of the textbook. In addition, the website of the Foundation for Curriculum Development often publishes the experiences of other schools (SLO, 2022).

In Finland, all the costs of education in the country come from the state budget. The comprehensive school is completely free, including all educational materials, health care, counseling, tutoring and psychological services, as well as transportation if living 3-5 km from the school.

Upper secondary and higher (i.e., academic and vocational) education is also free. However, students have to pay for textbooks and transportation. All other services are very inexpensive or completely free. Textbooks are updated as needed. There is no periodicity, teachers choose the textbooks they want to use during the school year and make recommendations to those responsible for purchasing textbooks.

The selection of a textbook is based on the prestige of the author and/or publisher and the skillful marketing of the publisher. Books with attractive covers are preferred. Teachers pay attention to those

textbooks that are most in demand among colleagues (Golovina, 2021).

According to scientists, all countries are trying to keep up with the progress, but not all are following the same path. In some countries the state regulation of book publishing and distribution dominates, in others the prerogative is given to market relations of intelligence in the field of book publishing (Onyshchuk, Tatarinova, 2021).

However, the international practice of democratic countries shows that funds for textbooks should be directed as close as possible to those who will use them, that is, directly to each educational institution. In this case, the purchase of educational literature will be carried out by each educational institution independently. This will create conditions for the development of the market of educational products on the basis of free competition and equal rights.

To perform functions corresponding to public interests in the field of educational services, in particular, to organize the publication, purchase, storage and delivery of textbooks and manuals (including electronic), educational and methodological literature for students and teachers of general secondary, vocational (professional-technical) education in Ukraine in 2020 was allocated the budget program 2201260 "Nationwide measures in the field of education".

In the aforementioned 2020–2022 budget program, most of the funds were specifically allocated to the printing, delivery, and storage of textbooks (Figure 1).

Thus, in 2020 UAH 620.8 million (85.7% of the total amount of expenditures of the budget program) are allocated for the publication and supply of pedagogical and methodical literature, holding a competitive selection of textbooks for students of general secondary education, and keeping a reserve of textbooks and manuals. In 2021 it will be 617.9 million UAH (79.8%), but in 2022 – only 43.7 million UAH (34.8%).

In the state budget for 2023, 156 billion UAH has been allocated for financing education, including 0.8 billion UAH for the publication and purchase of more than 5.7 million textbooks and manuals (Zhiri, 2023).

In Ukraine, the production of book products is characterized by the following indicators: the number of subjects that published books (COEA code 58.11) in 2021, compared to 2015, decreased from 1,234 to 951 (or by 22.9%) (State Statistics, 2021); the number of titles of book products during this period increased from 19,958 to 21,095 (or by 5.7%). The total circulation increased from 36,409.8 to 44,753.6 thousand approx. (or by 13.6%), (Table 1).

The data given in Table 1, show that educational and methodical literature publications are in the lead in the range of book flows by purpose, both by

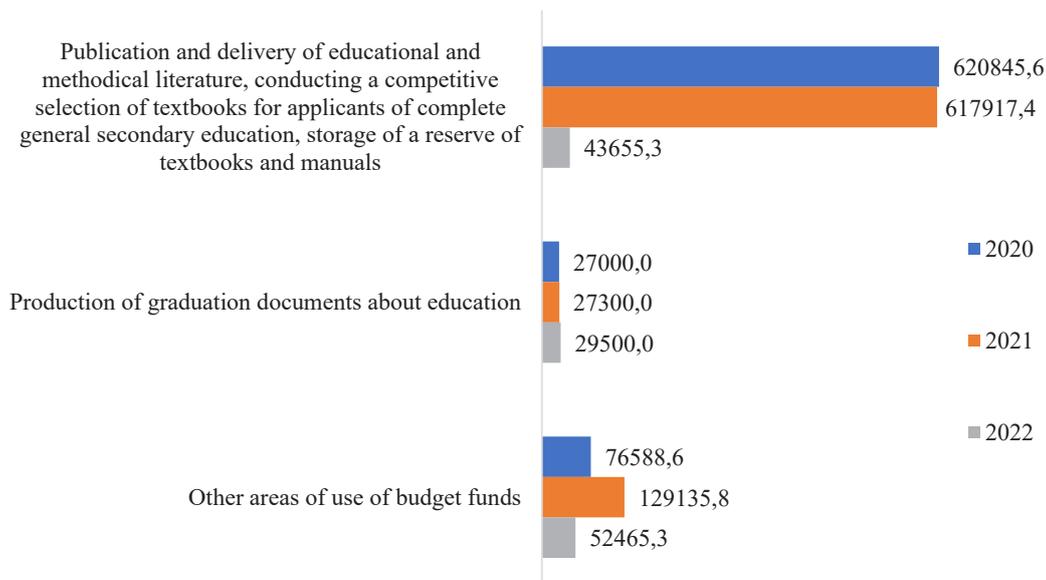


Figure 1. Estimated expenditures under the budget program "State-wide measures in the field of education" in 2020–2022, thousand UAH

Source: compiled by the authors according to (On amendments to the passport of the budget program under the CPCPC 2201260, 2020, 2021, 2022)

titles and by circulation (in 2021 – 6,573 printed units with a circulation of about 31,639.6 thousand copies), which as a percentage of the total number of titles is 31.2% and 70.7% of the total circulation; compared to 2020, the number of titles increased by 520. units, or by 8.6%, circulation – by 3,137.9 thousand copies, or by 11.0%.

According to O. Afonin, the President of the Ukrainian Association of Publishers and Book Distributors, in the domestic book publishing sector the percentage ratio of indicators from 2022 to 2021 will be: titles – 36.4%, circulation – 20.2% (Afonin, 2022).

It is obvious that the publishing of educational books has suffered the greatest losses in recent years. The current shortage of paper textbooks, especially for elementary school, and the financial inability of the state to finance their printing, deepens the

educational gap that was created during the two previous "coronavirus" years, and which the entire generation of current elementary school students will not be able to overcome, and therefore will be lost both to themselves and to the state, which in the coming years will need a powerful educated and intellectual personnel resource.

Ukrainian book publishers are trying to expand the range of their products, so they willingly participate in tenders for the printing of educational literature. The textbook market in Ukraine has long been considered highly monopolized, according to some estimates – up to 80%. The current situation looks better thanks to a number of measures aimed at increasing efficiency at all stages of production of educational literature for secondary educational institutions (Repko, Sakhno, Teleton, 2020).

Table 1
Publication of books and brochures according to the target purpose in Ukraine in 2015–2021

Year	Total editions			Among them are educational and methodological editions				
	number of printed units	edition, thousands of copies	average circulation, thousand of copies	number of printed units	in % of the total volume	edition, thousands of copies	in % of the total volume	average circulation, thousands of copies
2015	19 958	36 409,8	1,8	6 818	34,2	16 223,0	44,6	2,4
2016	21 330	48 978,0	2,3	7 098	33,3	27 146,1	55,4	3,8
2017	2 2047	45 127,2	2,0	7 107	32,2	24 398,2	54,1	3,4
2018	22 612	47 022,1	2,1	7 226	32,0	29 636,4	63,0	4,1
2019	24 416	61 250,6	2,5	7 895	32,3	37 280,1	60,9	4,7
2020	18 967	41 946,7	2,2	6 053	31,9	28 501,7	67,9	4,7
2021	21 095	44 753,6	2,1	6 573	31,2	31 639,6	70,7	4,8

Source: compiled by the authors according to (Official site of the Book Chamber of Ukraine, 2021)

Private publishing houses "Ranok" and "Geneza", "Stary Lev Publishing House", "Textbook – Bohdan" Publishing House, "Gramota" Publishing House are long-time players in the publishing business of educational literature in Ukraine (Table 2).

With the beginning of the Russian invasion the book industry suffered greatly, printing presses in

Kharkiv were stopped, offices and warehouses of some publishing houses were damaged (Zahorui, 2022).

Due to the extremely difficult conditions in which domestic publishers find themselves, in order to create equal conditions of competition among publishers developing modern educational content for Ukrainian general educational institutions, it

Table 2

The largest publishers of educational literature in Ukraine

Publishing house	Printed products	Books were published in 2018, thousands of copies		Notes
		Total volume	by order of the Ministry of Education and Culture	
Ranok Publishing House LLC	The subject matter of the publishing house is aimed at the school audience (teaching manuals, test and examination tasks).	7 300	2 977	Founded in 1997 by Viktor Kruhlov (Kharkiv). The only publishing house in Ukraine that has its own electronic logistics center for prompt delivery of products to any corner of the country. Repeated winner and laureate of various competitions and book forums.
"Stary Lev Publishing House"	The publishing house creates books for the whole family: cartoons, fairy tales, rhymes for babies, stories for schoolchildren, teenage series, non-fiction books for different ages, exquisite poetry, interesting novels, atlases and albums, and even anti-stress coloring pages.	2 006	1 105	The publishing house was founded in 2001 by Mariana Savka and Yurii Chopyk in Lviv. It is one of the largest in the Ukrainian book market and has gained popularity in the international publishing arena. It actively cooperates with foreign publishers both in the direction of buying licenses and selling rights abroad.
"Gramota" Publishing House LLC	Textbooks and manuals for elementary, middle and high school, vocational and technical education, higher school; scientific, popular science and art publications; Fiction.	1 396	508	It was established in December 2000. The books of the publishing house occupy the first places in Ukrainian book ratings and have won numerous prizes and awards. Since 2005, textbooks for secondary schools have been winners of the All-Ukrainian Textbook Competition.
LLC Publishing House "Navchalna Knyha-Bohdan"	The publishing house publishes children's books and fiction, translated works of world-famous authors.	1 967	182	For almost 20 years, the publishing house has been working to meet the needs of national schools and higher education institutions in the field of educational literature, creating new original textbooks, dictionaries, methodical manuals, reference books and encyclopedic editions that meet modern world and state standards. In addition, the publishing house publishes children's and fiction literature, translated works of famous world authors. The publishing house is also engaged in book trade.
Geneza Publishing House LLC	Specializes in educational and science literature. Produces many books specifically related to the school curriculum.	4 779	1 755	The publishing house began operations in 1992. Throughout its history Genesis has been an innovator in publishing. Professional editors and artists, together with well-known authors, create textbooks and manuals for students, which are approved by the Ministry of Education and Science of Ukraine.

Source: compiled by the authors according to (Rating of Ukrainian publishing houses, 2018)

is necessary to solve the problem of overcoming the minimum print run threshold of 40 thousand copies, to lower the threshold for co-financing by the state and publishers to 10 thousand copies. It is also necessary to solve the problem of authors' remuneration, which is 2-3% for a circulation of 100,000 textbooks, while 80% is the cost of printing.

4. Discussions

In the conditions of lack of budget funds, in order to save them and increase the level of provision of educational literature for students, the question of objective calculation of expenses for paper (as a part of the cost of textbooks) and control over the real expenses of publishing houses is urgent.

The rapid introduction of the latest digital tools into the technology of publishing educational literature also requires a review of the norms of material consumption in the production of textbooks and pedagogical/teaching aids.

Under the conditions of application of an effective system of cost rationing in the production of textbooks and educational/teaching manuals, it is ensured that relevant information on production costs and the possibility of timely prevention of overspending will be obtained.

In today's conditions of fierce competition in the publishing industry, in order to ensure effective control over the cost of materials, methods of accounting for the actual cost of the volume of manufactured products are usually used, i.e. the inventory method is used for materials whose use is not standardized due to the existence of an imperfect rationing system.

An off-contract costing method is also used: production costs are collected according to specific orders and contracts. Multi-order costing requires well-organized analytical accounting with order number assignments and order documentation.

Control over the consumption of paper for printing and other production materials would be effectively carried out by the method of documenting deviations from the norms. For this purpose it is necessary to have the standards for the consumption of printing inks, cardboard and cover materials for bookbinding processes, cotton wool, gauze, non-woven materials, threads, wire, materials for finishing processes, binding materials in the production of bindings, glue and material waste standards (paper waste in bookbinding processes; cardboard and cover waste standards in bookbinding processes) in the production of textbooks and educational/teaching manuals.

Waste from the production of offset printing forms that can be used are: photographic film and photographic paper; solutions for processing

photographic film containing silver compounds; original forms are steel and aluminum plates. Usable wastes from the production of printing processes are used: paper, steel and aluminum plates (used machine forms), thickened ink residues, gum. The amount of paper waste during preparation for printing, during the printing process, paper breakage, paper residues on sleeves, internal roll defects is determined according to the norms of paper waste for the technological needs of production, approved in 1983.

In order to objectify the accounting of direct costs (author's fee, cost of paper, cardboard, binding materials, cost of production of original layouts, etc.), some studies propose to develop an electronic card index or registration journal, where each individual card will summarize information for each issue in a section costing articles (Yaremko, Glushko, 2010).

Considering the peculiarities of the activity of book publishing enterprises, it is possible to confirm the reliability of the formation of the cost of products (services) by drawing up an alternative balance of raw materials and materials using average indicators in the industry and normative costs approved by the internal documentation of the enterprise. This allows to assess the quality of the internal control system of the enterprise.

Book publishers need up-to-date standards to determine the level of costs that they can use as a guide in their day-to-day operations. In addition, they are also needed by customers to control the rational use of materials in the production process, and to analyze the reasons for material overruns for each order.

Until 01.01.2022 GOST 14.322-83 "Standardization of Material Consumption" was in force in Ukraine, which contains general provisions on the establishment of standards, namely, useful consumption of materials; technological waste caused by production technology; loss of materials.

The norms of consumption of materials in the manufacture of products did not include (paragraph 1.5 of GOST 14.322-83): wastes and losses not related to the established technological processes and organization of production (for example, losses of materials during their transportation and storage); losses and wastes caused by non-compliance with the requirements of standards and technical conditions; costs of raw materials and materials related to defects, testing of samples, repair, adjustment of equipment, packaging of finished products.

The general technical requirements for the production of textbooks and teaching aids for general educational institutions are contained in the standard of organizations of Ukraine – SOU 18.1-02477019-07:2015 "Polygraphy. Textbooks

and teaching aids for general educational institutions", which is valid from 24.10.2019 to 31.12.2024.

In Ukraine there is also a thorough method of standardization of book publishing, but these standards, developed in the 2000s by PJSC "Ukrainian Research Institute of Printing Industry named after T.H. Shevchenko", were designed for outdated equipment, a large part of which is currently morally and physically worn out.

In 2000–2012 specialists of Taras Shevchenko Ukrainian Research Institute of Printing Industry, a corporate enterprise of SJSC "Ukrvydavpoligrafiiya", issued 20 regulatory documents on standardization of material costs in the printing industry for information, economic, regulatory and technical support of the printing industry, namely: cotton, gauze, non-woven materials, threads, wire for the production of book and magazine products; adhesives for the production of book products; materials for the production of offset printing forms; materials for the finishing processes of printed products; binding materials for the production of bindings; paper for gluing the base of the book block and paper and cardboard for the cover of the book block; binding cardboard waste; inks for the printing of book, magazine and visual products on sheet offset machines; inks for printing book products on roll offset machines; waste paper from bookbinding and binding processes for the production of book and magazine products; waste paper for the technological needs of production during the printing of book, magazine and visual products on sheet offset machines; waste paper for the technological needs of production during the printing of book and magazine products on roll offset machines; consumption of paper, cardboard and covering materials for the production of book products, etc.

In accordance with the fourteenth paragraph of item 5 of the Recommendations of the Accounting Chamber based on the results of the audit of the efficiency of the use of state budget funds allocated to the Ministry of Education and Science of Ukraine for the provision of textbooks and manuals, regarding the development of norms for paper consumption for the production of textbooks and manuals for modern printing equipment and their approval, The Directorate of Science and Innovation of the Ministry of Education and Science of Ukraine should contact scientific institutions, higher education institutions specializing in issues of development of norms of paper consumption for the production of textbooks, manuals for modern printing equipment and their approval.

PJSC "Ukrainian Research Institute of Printing Industry named after T.H. Shevchenko", corporate enterprise SJSC "Ukrvydavpoligrafiiya" carries out the development of quality standards, material costs

and instructions. However, insufficient state funding has a negative impact on its scientific activity, which is why there are currently no modernized standards for the consumption of materials for the printing and publishing industry, in particular for the production of educational literature. This problem can be solved by providing the PJSC "Ukrainian Research Institute of Printing Industry named after T.H. Shevchenko" with the state order for the development of cost norms and waste standards for the production of book products on modern printing equipment.

5. Conclusions

The situation in the publishing and printing industry remains complex, ambiguous and controversial. Significant losses due to the Russia's aggression, lack of working capital, high taxes and interest rates, low solvency of the population and legal entities have led to a decrease in demand for printed products and an increase in receivables.

However, in general, the textbook industry in Ukraine in comparison with other countries was developed and promising until 2022. It is based on the ideas of multivariability of textbooks, their competitive selection, granting pedagogical workers the right to choose future textbooks, introduction of elements of objectivity, transparency and impartiality in the procedures of publishing educational literature, etc.

At the same time, it is necessary to develop new approaches to updating the procedure for preparing textbooks and educational materials, in particular, the introduction of market mechanisms for state procurement, an increase in royalties to textbook authors, the introduction of new approaches to financing the field of textbook publishing, etc.

Without waiting for the end of the war, it is necessary to immediately approve the strategy for the development of reading for 2021–2025 "Strategy of reading as a way of life" and to direct a part of the financial aid provided to Ukraine by the allies to the implementation of the measures prescribed in it, which concern the subjects of book publishing in Ukraine, namely Introduction of benefits for the resumption of activities of book publishers, in particular, exemption from income tax for a period of 5 years; introduction of preferential loans for the restoration and development of publishing houses, in particular, state guarantees for loans; innovative re-equipment of Ukrainian publishing houses and the printing base thanks to the introduction of state support, in particular, through preferential customs clearance of printing equipment, printing materials not produced in Ukraine (paper, cardboard, ink, glue, etc.).

The key challenges that determine the prospects for further research are: the need to substantiate and develop standards for material consumption and standards for material waste in the production of textbooks and educational/teaching manuals for the purpose of forming a competitive policy for book publishers; introduction of monitoring of the cost of services of publishing houses and printing houses (with the provision of economic justifications) for the

objective determination of the cost of printing textbooks, manuals during the formation of the project estimate; transformation of state procurement mechanisms in accordance with the legislation of Ukraine on public procurement, as well as relevant EU standards.

According to the authors, it is the implementation of these areas that should be the subject of cooperation between scientists, experts and representatives of book publishers in the near future.

References:

- Afonin, A. (2022, December 19). Deiaki pidsumky vydavnychoho roku v umovakh viiny [Some results of the publishing year during the war]. *Ukrainian Publishers & Booksellers Association*. Available at: <http://www.upba.org.ua/index.php/uk/vydavnytstva> (in Ukrainian)
- Buryak, S. (2021). Knyhovydavnycha diialnist suchasnoi Ukrainy: stan, tendentsii ta perspektyvy rozvytku [Book publishing activity of modern Ukraine: state, trends and prospects of development]. *Bulletin of the Book Chamber*, vol. 1, pp. 10–21. DOI: [https://doi.org/10.36273/2076-9555.2021.1\(294\).10-21](https://doi.org/10.36273/2076-9555.2021.1(294).10-21) (in Ukrainian)
- Dovgan, L.E., & Vorzhakova, Y.P. (2013). Stan ta perspektyvy rozvytku polihrafichnoi promyslovosti Ukrainy [State and prospects of development of the printing industry of Ukraine]. *Economy and state*, vol. 6, pp. 34–38. (in Ukrainian)
- Drury, C. (2021). Management and cost accounting. Print Book, English, Publisher: Cengage, Andover.
- Durnak, B., Shtangret, A., & Melnikov, O. (2006). Vydavnycho-polihrafichna haluz Ukrainy: stan, problemy, tendentsii. Statystychno-hrafichniy ohliad: monohrafiya [Publishing and printing industry of Ukraine: state, problems, trends. Statistical and graphical review: monograph]. Lviv. (in Ukrainian)
- Durnak, B.V., Shtangret, A.M., & Martyniv, V.V. (2008). Stan i tendentsii rozvytku pidpriemnytstva u vydavnycho-polihrafichnii haluzi [State and trends of entrepreneurship development in the publishing and printing industry]. *Scientific Notes*, vol. 2(14), pp. 77–82. (in Ukrainian)
- Glushko, O.Z. (2021). Tendentsii rozvytku shkilnoi osvity u Polshchi [Trends in the development of school education in Poland]. Trends in the development of school education in the EU, USA and China: monograph. Kyiv. Available at: <https://undip.org.ua/library/tendentsii-rozvytku-shkilnoi-osvity-v-krainakh-yes-ssha-ta-kytai-monohrafiia/>
- Golovina, O. (2019, April 25). Yak robliat pidruchnyky za kordonom. Finskyi dosvid [How do textbooks abroad. Finnish Experience]. *New Ukrainian school*. Available at: <https://nus.org.ua/articles/pidruchnyky-finskyj-dosvid/>
- Guzhel, Y. (2017, November 27). Nakaz pro normuvannia vytraty materialiv u vyrobnytstvi [Order on rationing the consumption of materials in the production]. *Uteka*. Available at: <https://uteka.ua/ua/publication/commerce-12-dokumentoorot-2-prikaz-o-normirovanii-rasxoda-materialov-v-proizvodstve> (in Ukrainian)
- Horngren, C.T., Foster, G., Datar, S.M., Rajan, M., Ittner, C., & Baldwin, A.A. (2010). Cost accounting: A managerial emphasis. *Issues in Accounting Education*, vol. 25(4), pp. 789–790.
- Kilkist diiuchykh sub'ektiv hospodariuvannia za vydamy ekonomichnoi diialnosti u 2010–2019 rokakh [The number of operating business entities by type of economic activity in 2010–2019]. *State Statistics Service of Ukraine*. Available at: http://https://www.ukrstat.gov.ua/operativ/menu/menu_u/sze_20.htm
- Londar, S.L. (2021). Udoskonalennia finansuvannia systemy osvity Ukrainy yak peredumova uspishnoho reformuvannia: monohrafiya [Improving the financing of the education system of Ukraine as a precondition for successful reform: monograph]. Kyiv. (in Ukrainian)
- Official site of the Book Chamber of Ukraine. Release of book production in Ukraine in 2021. Available at: <http://www.ukrbook.net>
- Onyshchuk, M., & Tatarinova, L. (2021). Deiaki tendentsii knyhodrukuvannia ta knyhorozpovsiudzhennia u sviti v umovakh pandemii COVID-19 [Some trends in typography and book distribution in the world in the context of the COVID-19 pandemic]. *Bulletin of the Book Chamber*, vol. 9, pp. 6–10. (in Ukrainian)
- Onyshchuk, M.I., & Tatarinova, L.V. (2021). Industriia knyhy u sviti: osoblyvosti ta tendentsii rozvytku: monografiya [Book industry in the world: features and trends of development: monograph]. Kyiv. (in Ukrainian)
- Palyha, E.M., Bazyluk, V.B., & Palyha, I.E. (2019). Udoskonalennia korporatyvnoho upravlinnia vydavnycho-polihrafichnykh pidpriemstv [Improvement of corporate governance of publishing and printing enterprises]. *Bulletin of Economic Science of Ukraine*, vol. 2 (37), pp. 73–77. DOI: [https://doi.org/10.37405/1729-7206.2019.2\(37\).73-77](https://doi.org/10.37405/1729-7206.2019.2(37).73-77) (in Ukrainian)
- Palyha, E.M., & Bosak, I.P. (2016). Suchasni tendentsii funktsionuvannia pidpriemstv vydavnycho-polihrafichnoi haluzi ta alternatyvy yikh rozvytku [Modern trends in the functioning of enterprises of the publishing and printing industry and alternatives to their development]. *Scientific Bulletin of Uzhhorod University. Series "Economics"*, issue 1(47), vol. 2, pp. 285–290. (in Ukrainian)
- Polyansky, P.B. (2010). Do pytannia pro perevahy i vrazlyvni mistsia elektronnykh pidruchnykyv [To the question of the advantages and vulnerabilities of electronic textbooks]. *Problems of a modern textbook*, vol. 10, pp. 15–31. (in Ukrainian)

Poriadok vykorystannia koshtiv, peredbachenykh u derzhavnomu biudzheti dlia realizatsii zahalnoderzhavnykh zakhodiv u sferi osvity [The procedure for using the funds provided in the state budget for the implementation of national measures in the field of education]: Resolution of the Cabinet of Ministers of Ukraine dated February 19, 2020 No. 131. Available at: <https://zakon.rada.gov.ua/laws/show/131-2020-%D0%BF#Text> (in Ukrainian)

Prib, K.A. (2014). Formuvannia stratehii rozvytku pidpriemstv vydavnycho-polihrafichnoi haluzi [Formation of a strategy for the development of enterprises in the publishing and printing industry]. *Intellect XXI*, vol. 6, pp. 30–38. (in Ukrainian)

Pro rozghliad Zvitu pro rezultaty audytu efektyvnosti vykorystannia koshtiv derzhavnoho biudzhetu, vydilyenykh Ministerstvu osvity i nauky Ukrainy na zabezpechennia pidruchnykamy, posibnykamy" [On consideration of the Report on the results of the audit of the effectiveness of the use of state budget funds allocated to the Ministry of Education and Science of Ukraine for the provision of textbooks, manuals]: Decision of the Accounting Chamber of April 28, 2020 No. 11-1. Available at: https://rp.gov.ua/upload-files/Activity/Collegium/2020/11-1_2020/R_RP_11-1_2020.pdf (in Ukrainian)

Pro vnesennia zmin do pasportu biudzhetnoi prohramy na 2020 r. [On amendments to the passport of the budget program for 2020]: Order of the Ministry of Education and Science of Ukraine dated May 20, 2020 No. 660. Available at: <https://mon.gov.ua/storage/app/media/budzhet/2020/07/30/Byudzhet%202020/Zminy%20do%20pasportiv/660-kpk-2201260.pdf> (in Ukrainian)

Pro vnesennia zmin do pasportu biudzhetnoi prohramy za KPKVK 2201260 na 2021 rik [On amendments to the passport of the budget program under the CPCPC 2201260 for 2021]: Order of the Ministry of Education and Science of Ukraine dated December 24, 2021 No. 1440. Available at: <https://mon.gov.ua/storage/app/media/budzhet/2021/Zminy.do.pasp.byudzh.prohr.2021/12/24/Zminy.pasp.KPK-2201260-24.12.21.pdf> (in Ukrainian)

Pro zatverdzhennia pasporta biudzhetnoi prohramy za KPVPK 2201260 na 2022 rik [On approval of the passport of the budget program under the CPCPC 2201260 for 2022]: Order of the Ministry of Education and Science of Ukraine dated March 26, 2022 No. 272. Available at: <https://mon.gov.ua/storage/app/media/budzhet/2022/Pasporty.byudzhet.prohram/04/06/Nakaz-272-26.03.2022.Pro.zatv.pasporta-2201260.na.2022.pdf> (in Ukrainian)

Pro zatverdzhennia Planu zakhodiv shchodo vykonannia rekomendatsii Rakhunkovoi palaty za rezultatomy audytu efektyvnosti vykorystannia koshtiv derzhavnoho biudzhetu, vydilyenykh Ministerstvu osvity i nauky Ukrainy na zabezpechennia pidruchnykamy, posibnykamy [On approval of the Action Plan for the implementation of the recommendations of the Accounting Chamber based on the results of the audit of the effectiveness of the use of state budget funds allocated to the Ministry of Education and Science of Ukraine for the provision of textbooks, manuals]: Order of the Ministry of Education and Science of Ukraine dated 06.07.2020 No 894. Available at: https://rp.gov.ua/upload-files/Activity/Collegium/2020/11-1_2020/894.pdf (in Ukrainian)

Proiekt Stratehii rozvytku chytannia na 2021–2025 roky "Chytannia yak zhyttieva stratehiia" [Draft Reading Development Strategy for 2021–2025 "Reading as a Life Strategy"]. *Ministry of Culture and Information Policy of Ukraine*. Available at: <https://mkip.gov.ua/files/pdf/%D0%A1%D0%A2%D0%A0%D0%90%D0%A2%D0%95%D0%93%D0%86%D0%AF%20%D0%A0%D0%9E%D0%97%D0%92%D0%98%D0%A2%D0%9A%D0%A3%20%D0%A7%D0%98%D0%A2%D0%90%D0%9D%D0%9D%D0%AF.pdf> (in Ukrainian)

Rating of Ukrainian publishing houses (2018). *Bookforum*. Available at: <https://bookforum.ua/p/rezultaty-knyzhkovogo-roku-ukrayinskyh-vidavnytstv> (in Ukrainian)

Rating of Ukrainian publishing houses (2018, January 30). *Bookforum*. Available at: <https://archive.bookforum.ua/rejtyng-ukrayinskyh-vidavnytstv> (in Ukrainian)

Repko, M., Sakhno, H., & Teleton, A. (2020, October 6). Ohliad biudzhetnoi prohramy "Zahalnoderzhavni zakhody u sferi osvity". Analitichnyi brif [Review of the budget program "National measures in the field of education". Analytical brief]. *Centre for Economic Strategy*. Available at: <https://ces.org.ua/review-of-the-education-budget-program>

Shtangret, A.M., Durnak, B.V., & Melnikov, O.V. (2010). Vydavnycha sprava ta polihrafichna diialnist v Ukraini: rehionalnyi aspekt [Publishing and printing activity in Ukraine: regional aspect]. *Technology and technique of printing*, vol. 4, pp. 206–216. (in Ukrainian)

Shtangret, A.M., & Shlakheto, V.V. (2008). Suchasni tendentsii rozvytku pidpriemnytstva u vydavnycho-polihrafichnii haluzi Ukrainy [Modern trends in the development of entrepreneurship in the publishing and printing industry of Ukraine]. *Bulletin of Economic Science of Ukraine*, vol. 2(14), pp. 160–162. (in Ukrainian)

Shvayka, L.A., Senkivskiy, V.M., & Melnikov, O.V. (2012). Ekonomichnyi rozvytok vydavnycho-polihrafichnoi haluzi Ukrainy: doslidzhennia sutnosti, pokaznykiv, faktoriv i rezultativ [Economic development of the publishing and printing industry of Ukraine: research of the essence, indicators, factors and results]. *Scientific Notes*, vol. 4(41), pp. 95–102. (in Ukrainian)

SLO (*Stichting Leerplanontwikkeling*) (2022). Available at: <http://www.slo.nl>

Sosnovska, O.O., & Zhydetska H.V. (2016). Suchasni problemy upravlinnia vytratamy na pidpriemstvakh vydavnycho-polihrafichnoi haluzi [Modern problems of cost management at the enterprises of the publishing and printing industry]. *Scientific Notes*, vol. 2, pp. 213–220. (in Ukrainian)

Yaremko, I.Y., & Glushko, O.V. (2010). Accounting for expenses at printing enterprises: State and prerequisites of development. *Scientific Bulletin of NLTU of Ukraine: Collection of scientific and technical works*, issue 20.10, pp. 266–273. Available at: https://nv.nltu.edu.ua/Archive/2010/20_10/266_Jare.pdf (in Ukrainian)

Zahorui, A., & Khmelovska, O. (2019, December 22). 9 months of invasion: how Ukrainian publishers work during the war. *Chytomo's*. Available at: <https://chytomo.com/en/9-months-of-invasion-how-ukrainian-publishers-work-in-times-of-war/>

Zhiriy, K. (2023, January 13). U Minfina rozpovily, shcho bude z finansuvanniam osvity pid chas viiny [The Ministry of Finance told what will happen to the financing of education during the war]. *UNIAN.NET*. Available at: <https://www.unian.ua/economics/finance/u-minfina-rozpovili-shcho-bude-z-finansuvanniam-osvity-pid-chas-viiny-12107997.html> (in Ukrainian)

Zvit pro ohliad vytrat derzhavnoho biudzhetu u sferakh osvity i nauky v chastyni zahalnoderzhavnykh zakhodiv u sferi osvity Ministerstva osvity i nauky Ukrainy [Report on the review of state budget expenditures in the fields of education and science in terms of national activities in the field of education of the Ministry of Education and Science of Ukraine]. Available at: https://mon.gov.ua/storage/app/media/budzhet/2021/03/18/Zvit%20pro%20ohlyad%20vytrat%20derzhavnoho%20byudzhetu%20u%20sferakh%20osvity%20i%20nauky_18_03.pdf (in Ukrainian)

Received on: 20th of January, 2023

Accepted on: 27th of February, 2023

Published on: 31th of March, 2023