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## **THE RESEARCH OF THE PRINTING INDUSTRY ENTERPRISES POTENTIAL IN UKRAINE**

The article examines the current state and potential of development of enterprises of the printing industry in Ukraine. The comparison of the results between the Ukrainian and other countries printing industry was carried out. The main trends of this industry in Ukraine and in the world were described.

The features of printing enterprises as an object of assessment of their potential, factors influencing the level of potential, the consequences of their influence were revealed in this article. The ways of increasing the enterprises potential in the printing industry were outlined, recommendations for the improvement of the current state of the industry were given.

**Key words:** potential, ways of improvement, printing industry, volume of production, volume of sales, price of printing products, development, trend, printing, factors of potential.

**Formulation of the problem.** Any state, including Ukraine, needs to realize the size of its industrial potential as a whole, as well as its individual industries. Taking into account the importance of the aspects related to the delivery of information to the population, the research of the potential of enterprises of the Ukrainian printing industry and its enhancement are really relevant today.

Both native and foreign printing industry have been experiencing a difficult period recently. The complexity and unpredictability of external factors leads to the increasing risk in the activity of the printing companies, reducing the growth of their economic potential. Printing and publishing companies are facing a lot of new rivals which appeared as a result of the rapid globalization and the development of computer technology. Online resources, e-books, for example, are pushing out such traditional sources of information as newspapers, magazines and books. Digital management and printing technologies are absolutely changing the basis of printing, pulling the printing industry to a new stage of development.

Taking into account these facts, the survival and development of printing in Ukraine will directly depend on the development of enterprises potential, in particular innovative potential, according to the vectors of change in this sphere. To define the correct ways to improve the state of the Ukrainian printing companies, it is necessary to analyze the current situation and dynamics of the industry, compare them with the foreign countries, to study the features of printing companies as an object of valuation of their potential and factors of its growth.

**Analysis of recent research and publications.** Researchers such as L.E. Dovhan devoted their work to the studying the current state and potential of the development of the printing industry. Dovhan [1], V.B. Bazylyuk [2], K.A. Prib [3], B.V. Durniak, A.M. Shtanhret, V.V. Martyniv [4], L.A. Schwaika [5], S. Buryak [6], S.I. Miklusha [7], M.O. Zelenskaya [8]. However, some of them had been developed before the political and economic crisis in the country and information in them to some extent is already outdated, moreover, in some publications there are no recommendations for further development of the industry and its potential.

**Selection of previously unsettled parts of the general problem.** Taking into account the importance of printing activity in modern conditions and the rapid changes in it, it is vital to understand the situation in the industry at the different levels: global and Ukrainian; results of the enterprises, the factors and ways to increase their potential.

**Formulating the goals of the article.** The purpose of this research is to analyze the current state, peculiarities and vectors of the development of the printing industry in Ukraine and the world, factors and ways of development of the potential of the Ukrainian printing companies.

**Presentation of the main research material.** Today the volume of printed materials in the world is estimated at 477 billion euros. According to analysts' forecasts, in the near future, its growth will rise 2.2% a year, and by 2020 it will reach 553 billion euros [2].

The developed countries concentrate about 88% of print production in the world. The share of developing countries is 11%, and undeveloped - about 1% [2].

North America (33%) is a leader on the world's printed market, followed by Central and Eastern Europe (24%). Eastern Asia and Oceania occupy 14%, whereas Africa and Middle East take only 5% [2].

In the structure of printing, digital small printers specializing in the production of small cassettes and the printing of variable data, will receive more rapid development. World's selling books and magazines volume growth rate for the period of 2010-2015 amounted to 0.6%, packages - 2.5%, commercial printing products - 0.8% [7].

The largest growth potential is on the markets of Eastern Europe, Southeast Asia and Latin America. The volume of the Eastern European market in 2016 amounted to 11.5 billion euros.

Let's consider the situation in the printing industry in some countries of the world. The largest production potential is in US printing. Moreover, the US today is also the world's largest producer and consumer of paper [7].

The scale of the printing industry in the USA is 30,000 printers with millions of employed, with a total turnover of \$ 166.6 billion USA. The level of productivity in American printing industries is significantly higher than in most developed countries, however, it is inferior to the printing industry in Japan.

In Japan, there are about 30 thousand printing companies, employing 350 thousand people. The total turnover of all printing companies exceeds 80 billion dollars USA, including \$ 2.5 billion dollars which US through the usage of the digital printing equipment. The main feature of the Japanese printing industry is that 98.6% of enterprises have fewer than 100 people in staff, while almost 45% of the volume of all output comes from the rest of the printing houses (1,4%). The majority of these companies are concentrated in the main corporations of the country - Dai Nippon Printing (DNP) and Toppan Printing.

As it can be seen from tab. 1, Germany has the strongest printing base among the countries of Europe.

Today there are about 10,000 printing companies in Germany with a workforce of 158,000 people who do the work estimated more than 20 billion euros. The use of production capacities in printing houses of the country exceeds 80%.

The structure of the printing industry in Germany is represented mainly by small and medium-sized printing enterprises. On average, one enterprise employs no fewer than 16 people, and on the 80% of printing houses there are less than 20 employees.

The annual turnover of the industry in terms of one printing enterprise is 2.3 million euros, the average labor productivity in the German printing industry reaches 140 thousand euros per person.

**Indicators of the printing industry in the countries of Europe as of 2013****Source: author's adaptation according to [7, 8, 9]**

Country	Annual turnover, billion euros	Number of enterprises	Number of employees, thousand people	Average annual turnover of one enterprise, million euro	Productivity, thousand euros / person
Germany	21	10000	158	2,1	132,9
Lithuania	0,12	380	3,8	0,3	31,6
Poland	2,5	10114	39,2	0,2	63,8
Slovakia	0,24	209	3,9	1,1	61,5
Slovenia	0,42	1087	4,8	0,4	87,5
Finland	1,713	1101	9,7	1,6	176,6
Ukraine	<b>0,814</b>	<b>1931</b>	<b>24,6</b>	<b>0,4</b>	<b>33,1</b>

The share of the largest members of the German printing market is rather huge - 650 printing houses (or 6.5% of the total number of printing houses), which provide almost 60% in the total turnover of the industry.

The assortment structure of the printed production produced in Germany is presented in such a way - books, magazines, newspapers, in the total volume of production make respectively 6,6%, 11,3% and 11,4%. The share of printed ad-products reaches a total value of over 60% of the printing amount produced in Germany. At the same time, the ratio of export and import of printing production to the foreign trade balance of the country is estimated at 70:30.

According to the results of 2016, the German printing industry is in a state of deep depression, which is characterized by numerous bankruptcies and sales of firms, reducing the volume of output produced by the offset printing method. At the same time, the share of digital printing is increasing, 10% of the book production is now printed on digital machines [8].

Poland is in the second place among the European countries, according to indicators characterizing the results of the printing industry. The number of printing companies in there exceeds their number in Germany, but for all other indicators printing industry of Poland is significantly behind German.

Unfortunately, the results of the printing industry of Ukraine are somewhat worse (tab. 1). According to the data on the number of printing industry enterprises, as well as the number of employees, by 2013, Ukraine is in third place in the researched countries, but by productivity, the average annual turnover as a whole and per enterprise is inferior to other countries, occupying the last place.

Since the independence of Ukraine, the number of printing enterprises has gradually diminished. In recent years, this trend has not changed. Fig. 1 shows the dynamics of changes in the number of enterprises in the polygraph industry of Ukraine over the last six years, that is, for the period of 2010-2016 - their number has decreased by 268 units, or by 15%. With a slight increase in the number of printing companies in 2013, the average annual reduction for this period amounted to 1.55%.

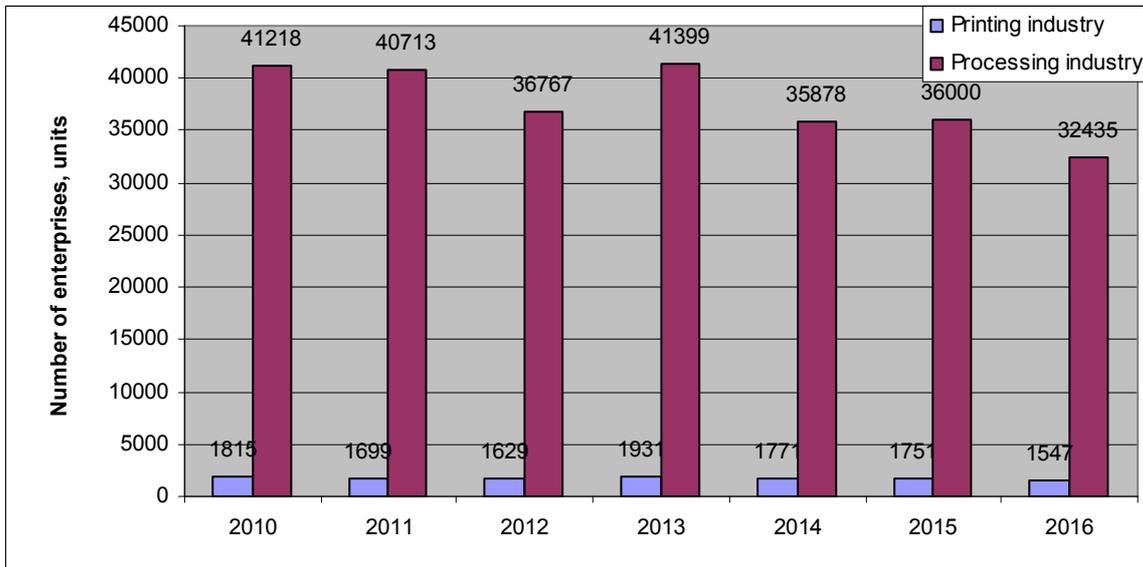


Fig. 1. Number of enterprises of the printing industry of Ukraine in the total number of enterprises of the processing industry, units [9]

The same negative trend is observed with the number of employees in the industry. Thus, from 2010 to 2016, the number of employees engaged in printing and related services decreased from 20.7 to 18.8 thousand people i.e. 9.2%.

The volume of sales of products from 2010 to 2016 increased, unevenly and in 2017, significantly decreased (tab. 2, fig. 2).

Table 2

**Volume of products sold by printing companies**

Source: author's adaptation according to [9]

Indicator	Year							
	2010	2011	2012	2013	2014	2015	2016	2017
Volume of sales by printing companies, UAH million	4844,1	4290,3	7060,8	7691,3	8249,2	10507,5	13088,7	8952,6
The share of the indicator in the processing industry,%	0,68	0,49	0,79	0,92	0,91	0,92	1,00	0,71
Index of volume of sold products by printing enterprises,%	-	88,6	164,6	108,9	107,3	127,4	124,6	68,4
Price index for printing products,%	-	104,8	101,2	100,6	116,8	127,6	105,5	-

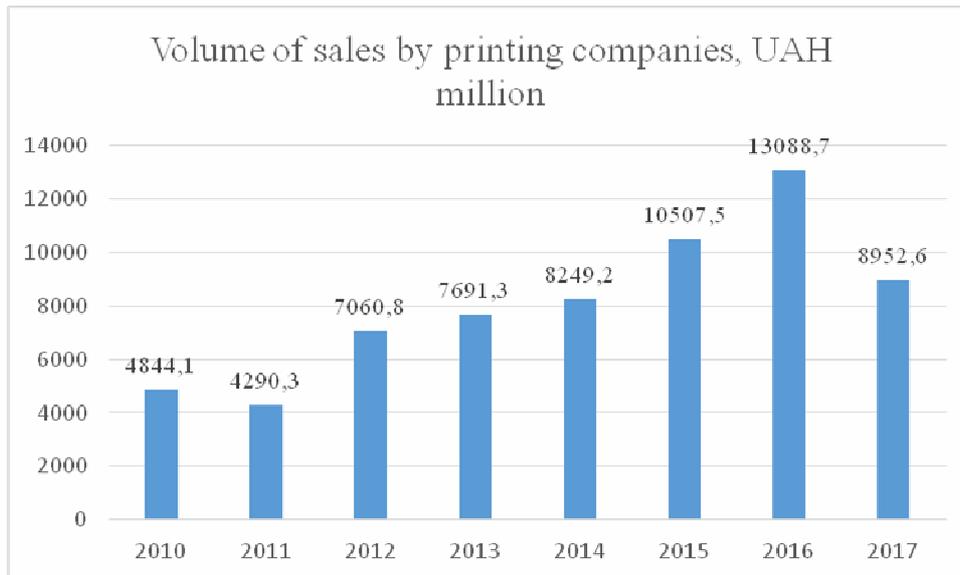


Fig. 2. Dynamics of the volume of sales of Ukrainian printing enterprises, million

In general, during the analyzed period, this factor increased 1.8 times (fig. 2), in 2015-2016 it increased by more than 20%, and in 2017 it decreased by almost 32%.

At the same time, the significant growth of sales in monetary terms took part in 2011 - 2016 due to a large extent, and in 2014, 2015, even to a greater extent, the increase in prices for products. Thus, in the considered time interval, the physical volumes of sales of printing products or increased insignificantly, or even decreased, in general.

At the same time, sales volumes declined at the highest rates in periodicals (tab. 3). Thus, the number of printed newspapers, magazines and other periodicals for the period from 2011 to 2015 declined by an average of almost 29% annually, advertising directories - by 18.9%, books, brochures, etc. - by 4.9%.

Table 3

**Printing of periodicals, books and other printing products in 2011-2015, million units. Source: author's adaptation according to [9]**

Type of product / Year	2011	2012	2013	2014	2015	Average rate of change of the indicator, %
Periodicals: newspapers, magazines	236	160,4	115,2	91,1	61	-28,7
Advertising catalogues	3	3,6	3,9	2,2	1,3	-18,9
Promotional products: brochures, posters	8	10,5	49,3	20	23,7	31,2
Books, brochures, etc.	48,3	52,5	63,4	61,3	39,5	-4,9
Calendars	2,7	2,7	2,4	3,3	2,5	-1,9

According to the results of the research in 2015, less than one book (0,85) fell on one inhabitant of Ukraine (1.28 books in 2014, 1.53 books in 2013) [6, 10]. This situation formed because of some issues: high cost of printed materials, decrease in incomes and a general tendency of reducing interest in reading.

However, Ukrainians are still a reading nation. Demand for Ukrainian books is still growing: in 2016 it increased to 45 million copies in total, compared with 39.5 million copies in 2015. This increase is caused by the refusal of the Ukrainian readers from the Russian books. Before military invasion, Russian literature occupied 80% of all sales, and now - up to 40-60%. And this share continues to decrease [10].

Also, the Internet has a great influence on the decline in the sales of printed media (newspapers, magazines). Since 2010, printed periodicals have changed policy - they have switched to online format, which has proven to be more effective.

The only type of high-speed printed materials (tab. 3) is the production of promotional products (ads, posters) - 31.2% on average annually.

Consequently, the recession in the development of the Ukrainian printing industry requires enterprises to continuously review their activities in order to make more effective use of available resources and competences, that is, to increase their potential.

Given the identified trends that exist in the Ukrainian printing industry, and the peculiarities of this business, we can summarize the main factors that influence the level of economic potential printing companies (tab. 4). Understanding how these factors affect the printing industry, we will give recommendations on how to increase its economic potential.

*Table 4*

**Factors of the economic potential of printing companies and ways to improve it**

Factor	Results of influence of the factor on the printing industry	The direction of increasing the potential of printing companies
Development of digital technologies in Ukraine and in the world. Reducing the need for printed products	Reducing the volume of print production on a global scale.	Revision of strategy, expansion of assortment of services provided; introduction of innovations
Fast moral depreciation, high cost of modern equipment	Transmission of print media to online format.	Reorientation of production for advertising products; state programs of crediting printing industry enterprises on preferential terms
The high cost of consumables, which are mostly imported	High production cost	Implementation of lean production, total cost analysis in order to reduce the cost of production

Factor	Results of influence of the factor on the printing industry	The direction of increasing the potential of printing companies
Economic instability in the country. Lack of financial assistance from the state.	High risk of printing business	Development of new markets with new products.
Outdated equipment and technology	Low competitiveness of products by value and quality	Investing in equipment upgrades
Lack of skilled personnel	Low level of personnel qualification, insufficient amount of creative ideas, innovative offers	State support of educational programs in higher educational establishments, which train specialists in the field of printing, training and qualification improvement of personnel by the enterprise.

**Conclusions and suggestions.** The obtained results make it possible to conclude that on a worldwide scale the volume of printing products is gradually increasing, but the pace of this growth is negligible. A larger share (88%) of production falls on developed countries, but in the future it will decline in favor of developing countries. The largest manufacturer of printing in the world is the United States. Among Europe's most powerful base is Germany. Ukraine in terms of the number of printing enterprises and the number of workers is inferior to Germany and Poland only, but the performance is low compared to European producers.

The volume of sales in the Ukrainian printing industry in value terms over the past seven years has almost doubled, but this increase is due to a greater increase in prices for products. The number of printed products, with the exception of advertising, for the years studied steadily declined. The reduction was also found in the number of printing companies - by 15% from 2010.

Such tendencies in the printing industry are caused by a general decrease in public interest in reading, inadequate state support of the industry, low competitiveness of Ukrainian products due to the constant rise in prices for it, a decrease in real incomes and the emergence of innovative types of printing, the transfer of print media to the online format, lack of coordination of the participants publishing and printing activity, general decline in the industry of the country, etc.

Therefore, further searches in the direction of increasing the economic potential of Ukrainian printing companies, especially innovative ones, are relevant. Without this, in today's conditions of rapid development of scientific and technological progress and information technologies, Ukrainian printing companies will find it extremely difficult to maintain the competitiveness and efficiency of functioning.

### References

1. Dovhan', L. Ye. and Vorzhakova, Yu. P. (2013), "Polihrafichna promyslovist' Ukrayiny: suchasnyy stan ta tendentsiyi rozvytku", *Ekonomika ta derzhava*, vol. 6, pp. 34-38.
2. Bazylyuk, V. B. (2014), "Osoblyvosti funktsionuvannya ta transformatsii pidpryyemstv vydavnycho-polihrafichnoi haluzi v umovakh instytutsiinykh peretvoren", *Visnyk uzhhorodskoho universytetu. Seriya: Ekonomika*, vol. 3, pp. 65-68.
3. Prib, K. A. (2014), "Formuvannya stratehiyi rozvytku pidpryyemstv vydavnycho-polihrafichnoyi haluzi", *Intelekt XXI*, vol. 6, pp. 30-38, available at: [http://nbuv.gov.ua/UJRN/int\\_XXI\\_2014\\_6\\_6](http://nbuv.gov.ua/UJRN/int_XXI_2014_6_6).
4. Durnyak, B. V., Shtanhret, A. M., Martyniv, V. V. (2008), "Stan i tendentsiyi rozvytku pidpryyemnytstva u vydavnycho-polihrafichniy haluzi", *Naukovi zapysky*, vol. 14, pp. 77-82.
5. Shvayka, L. A., Shtanhret, A.M. (2008), *Ekonomika vydavnycho-polihrafichnoyi haluzi* [Economics of the publishing and printing industry], Ukrainska akademiia drukarstva, L'viv, Ukraine.
6. Buryak, S. (2016), "Analitychnyy ohlyad knyhovydavnychoyi diyal'nosti za pidsumkamy 2015 roku", *Visnyk Knyzhkovoyi palaty*, vol. 4, pp. 9 -17.
7. Myklusha, S. I. (2014), "Innovatsiynyy potentsial pidpryyemstv u knyhovydavnychiy haluzi: ponyattya, struktura, skladovi", *Naukovyy visnyk Poltavs'koho universytetu ekonomiky i torhivli*, vol. 4 (66), pp. 76 - 82.
8. Zelens'ka, M. O. and Krush, P. V. (2013), *Upravlinnya potentsialom polihrafichnoho pidpryyemstva* [Managing the potential of a printing company], NTUU "KPI", Kyiv, Ukraine.
9. Hryhor'ev, V. V. (2013), *Rosсыyskaya polyhrafyya. Sostoyanye, tendentsyy, perspektyvi. Otrasleyoy doklad* [Russian printing. Status, trends, prospects. Industry report], Moscow, Russia.
10. Hryhor'ev, V. V. (2017), *Rosсыyskaya polyhrafyya. Sostoyanye, tendentsyy, perspektyvi. Otrasleyoy doklad* [Russian printing. Status, trends, prospects. Industry report], Moscow, Russia.
11. Ofitsiynnyy sayt Derzhavnoyi sluzhby statystyky Ukrayiny. (2018), available at: <http://www.ukrstat.gov.ua>
12. Ohlyad rynku. Knyhovydannya. (2017), available at: <https://msb.aval.ua/news/?id=26190>.
13. Doslidzhennya chytannya knyzhok v Ukrayini. (2014), available at: <https://www.slideshare.net/Kyivstar/report-gfk-reading2014for-uploading-38932265>.

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**Дослідження потенціалу підприємств поліграфічної промисловості в Україні**

В статті проаналізовано сучасний стан та потенціал розвитку підприємств поліграфічної галузі в Україні. Виконано порівняння виробничої бази та результатів роботи вітчизняної поліграфії з результатами роботи цієї галузі в інших країнах. Охарактеризовано основні тенденції, що існують в галузі в Україні та світі. Виявлено особливості поліграфічних підприємств, як об'єкту оцінки їх потенціалу, чинники, що впливають на рівень потенціалу, наслідки їх впливу. Окреслено напрями збільшення потенціалу підприємств поліграфічної галузі, надано рекомендації щодо поліпшення результатів їх роботи та подальшого розвитку.

**Ключові слова:** потенціал, напрями підвищення, поліграфічна промисловість, обсяг виробництва, обсяг реалізації, ціна поліграфічної продукції, розвиток, тенденція, друк, чинники потенціалу.

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**Исследование потенциала предприятий полиграфической промышленности в Украине**

В статье проанализировано современное состояние и потенциал развития предприятий полиграфической отрасли в Украине. Выполнено сравнение производственной базы и результатов работы отечественной полиграфии с результатами работы этой отрасли в других странах. Охарактеризованы основные тенденции, существующие в отрасли в Украине и мире. Выявлены особенности полиграфических предприятий, как объекта оценки их потенциала, факторы, влияющие на уровень потенциала, последствия их воздействия. Определены направления увеличения потенциала предприятий полиграфической отрасли, даны рекомендации по улучшению результатов их работы и дальнейшему развитию.

**Ключевые слова:** потенциал, направления повышения, полиграфическая промышленность, объем производства, объем реализации, цена полиграфической продукции, развитие, тенденция, печать, факторы потенциала.