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TOPICAL ISSUES OF PROVIDING RAW MATERIALS TO WOODWORKING INDUSTRY ENTERPRISES IN UKRAINE

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Introduction. Woodworking industry splits into two main sectors – primary and deep processing of wood, which fundamentally differ from each other. While primary wood processing requires common timber assortments (usually coniferous) production of deep processing products – plywood, particleboards and fiberboards – needs valuable and scarce assortments of hardwood like alder or birch. Problems with access to valuable raw materials remain one of the key factors in the development of the Ukrainian woodworking industry for many years.

Aim and tasks. The aim of the article is to identify main shortcomings of Ukrainian timber market that create the biggest obstacles for domestic deep wood processing business; and to propose legal and regulatory mechanisms for ensuring stable and priority access of woodworking enterprises to quality timber products.

Research results. Woodworking industry development is constrained with smuggling of valuable hardwood assortments (birch and alder), which serve as raw material for the manufacture of veneer, plywood, fiberboard; as well as with large-scale exports of wood particles to Turkey. In addition, abolished State Forestry Agency’s Order #42 that obliged to distribute scarce hardwood assortments only among those businesses that have appropriate facilities for its rational consumption. This greatly enhanced risks to misuse rare wood varieties for the needs that can be met by consumption of less-quality or more widespread assortments. The results of economic modeling show that strengthening the negative tendencies with the access of domestic woodworking manufacturers to plywood raw materials will have a negative impact on all related industries, employment and the economy as a whole; Ukraine will increase raw material exports and imports of finished furniture and paper products produced from exported raw materials.

Conclusions. In order to avoid a negative scenario in the deep wood processing industry, it is necessary to adopt the Law on the Timber Market built upon the principle of targeting access to technical and plywood raw materials. It’s also necessary to enact and guarantee the practical implementation on preserving Ukrainian forests and preventing the illegal export of unprocessed wood.

Key words: forestry, woodworking, plywood, fiberboard, particleboard, veneer.

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АКТУАЛЬНІ ПРОБЛЕМИ ЗАБЕЗПЕЧЕННЯ СИРОВИНОЮ ПІДПРИЄМСТВ ДЕРЕВООБРОБНОЇ ПРОМИСЛОВОСТІ В УКРАЇНІ

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Проблема. Структура деревообробної галузі передбачає поділ на сектори первинної та глибокої обробки деревини, які принципово відрізняються один від одного. Тоді як первинна обробка потребує розповсюджених сортиментів деревини (переважно хвойних), глибока деревообробка споживає насамперед цінні й дефіцитні лісоматеріали листяних порід для виробництва шпону, фанери, деревоволокнистих і деревостружкових плит. Проблеми з доступом до цінної сировини залишаються одним з ключових чинників розвитку деревообробної галузі України протягом багатьох років.

Мета та завдання. Метою статті є визначити ключові недоліки у функціонуванні вітчизняного ринку лісу, які обмежують розвиток глибокої обробки деревини в Україні, а також запропонувати нормативно-правові механізми забезпечення стабільного доступу підприємств деревообробної промисловості до необхідної їм сировини.

Результати. Розвиток деревообробної галузі України стримує контрабанда цінних сортиментів листяних дерев (берези та вільхи), які слугують сировиною для виготовлення шпону, фанери, ДВП, а також масштабний експорт деревної стружки до Туреччини. При цьому, скасовано Наказ Державного лісового агентства №42, який надавав пріоритетний доступ до дефіцитних сортиментів деревини тим підприємствам, які мають відповідне переробне обладнання для її раціонального використання. Це значно підвищило ризики нераціонального використання рідкісних сортиментів деревини для інших виробничих потреб, що можуть бути задоволені через споживання менш якісних або більш розповсюджених лісоматеріалів. Результати економіко-математичного моделювання засвідчують, що посилення негативних тенденцій з доступом вітчизняних деревообробників до технічної і фанерної сировини матиме негативний вплив на всі суміжні галузі, зайнятість та економіку в цілому; Україна нарощуватиме сировинний експорт деревини та імпорт готової меблевої і паперової продукції з неї.

Висновки. Для уникнення негативного сценарію розвитку у секторі глибокої обробки деревини необхідно ухвалити Закон України про ринок лісоматеріалів, яким забезпечити принцип адресності в доступі до технічної і фанерної сировини, а також ввести в дію і гарантувати практичну реалізацію щодо збереження українських лісів та запобігання незаконному вивезенню необроблених лісоматеріалів.

Ключові слова: лісове господарство, деревообробка, фанера, деревоволокнисті плити, деревостружкові плити, шпон.

Introduction. Woodworking industry is naturally the main consumer of forestry products in national economy. According to "Input-Output" tables data, its share in the total volume of timber consumption in Ukraine is about 57 per cent. The industry uses a wide range of round timber for the production of wood flour, sawn timber, sleepers, cross-ties, plywood, veneered panels, particleboards, fiberboards, densified wood, etc. While primary wood processing requires common timber assortments (usually coniferous) production of deep processing products – plywood, particleboards and fiberboards – needs valuable and scarce assortments of hardwood like alder or birch.

Access to raw materials for the enterprises concerned remains the main risk factor and developmental problem not only for the woodworking sector, but also for furniture industry as a main consumer of deeply processed wood products. According to the biggest Ukrainian Association of furniture, woodworking enterprises and organizations "Mebliderevprom", domestic woodworking capacities in the sphere of deep processing are loaded only by 30-40 per cent. This necessitates to study current conditions of Ukrainian timber market functioning and to identify the measures to improve accessibility to scarce hardwood assortments for processors.

Analysis of recent researches and publications. Features of Ukrainian timber market and woodworking industry functioning were the subject of a number scientific investigations lead by N. Popadynets [1], O. Shubalyi [2], A. Terebukh [3], O. Mnykh [4], V. Halasiuk [5] and others. For instance, V. Halasiuk [5] analyzed main challenges for domestic woodworking enterprises development and investigated prospects of increasing investment attractiveness, production and export potential of Ukrainian woodworking industry. In turn, O. Mnykh uncovered some reasons for low investment attractiveness, as well as areas of its improvement in woodworking industry of Ukraine [4].

Previously unsettled problem constituent. Paying tribute to existing scientific developments on this issue, it should be noted that current trends are leading to radical changes in conditions of timber trade in the domestic market. For instance, on March 1, 2018, the District Administrative Court of Kyiv found specialized auctions for the purchase of scarce wood assortments to be illegal. This has abolished the targeting principle in timber distribution and opened up opportunities for hardwood misuse. In addition, the first results of moratorium on unprocessed timber exports are also to be revised through the lens of facilitating access to valuable and scarce raw materials for domestic manufacturers of plywood, particleboards and fiberboards. The above stipulates the need for further investigations.

Aim and tasks. The aim of the article is to identify main shortcomings of Ukrainian timber market that create the biggest obstacles for domestic deep wood processing business; and to propose legal and regulatory mechanisms for ensuring stable and priority access of woodworking enterprises to quality timber products.

Results. The woodworking is one of the most dynamic industries among related sectors of the economy. Due to the introduction of a moratorium on the export of untreated timber, the industry has proven to be ahead of growth compared to sawmilling and planing of wood, paper and furniture manufacturing. Growth in the industry also outstrips the overall dynamics of industrial production in the country (table 1).

Table 1. Industrial production indices in the forestry and in general by all industries in Ukraine, %

	Code of CTEA[1]-2010	2014	2015	2016	2017	2018[2]
Industry	B+C+D	89,9	87,0	102,6	100,4	102,5
Manufacturing	C	90,7	87,4	104,3	104,8	102,5
Manufacture of products of wood, manufacture of paper and printing	16-18	96,0	88,9	102,0	105,8	104,4
Manufacture of wood and of products of wood, except furniture (woodworking industry)	16	103,0	99,8	105,1	103,9	107,1
Sawmilling & planing of wood (primary woodworking)	16.1	104,2	106,1	114,3	102,5	113,3
Manufacture of products of wood (deep woodworking)	16.2	102,4	96,8	100,1	104,7	103,4
Manufacture of paper and paper products	17	94,3	82,8	99,4	107,8	104,8
Printing and reproduction of recorded media	18	87,1	85,1	102,5	104,7	93,8

*Footnotes: 1. CTEA – classification of types of economic activity.

2. Data for January-June 2018 to the same period of the previous year.

Source: author's development based on [6].

Woodworking industry provides 1.93 per cent of industrial production. Its share in GDP reaches 1.27 per cent that provides jobs for 0.8 per cent of the employed population in Ukraine. At the same time, deeply processed wood products – CTEA 16.21 "Production of plywood, wooden slabs, panels and veneer" – accounts for about 48% of the total volume of manufactures sold by enterprises of the woodworking industry of Ukraine (figure 1).

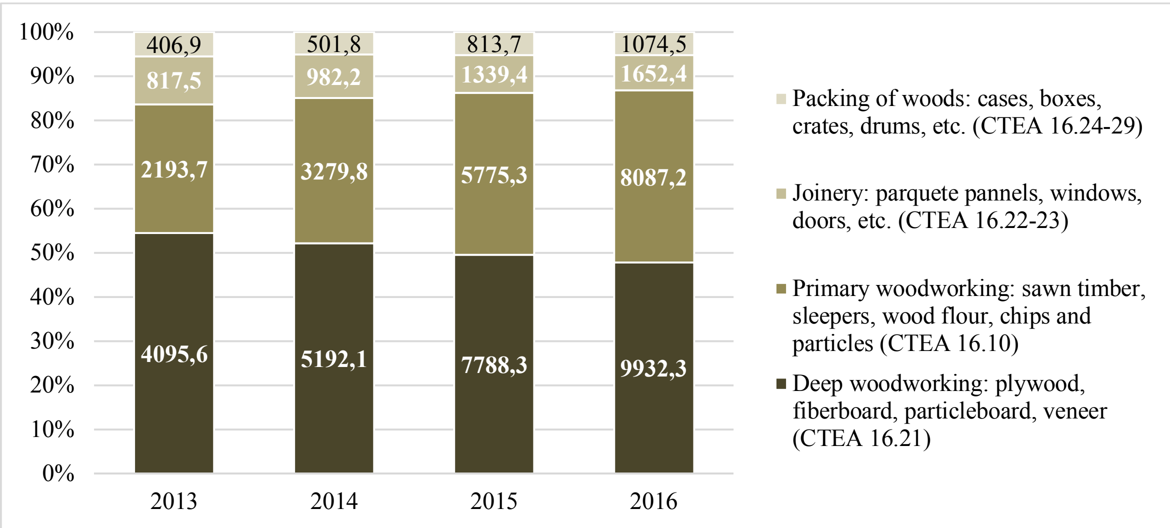

Fig. 1. Dynamics of the Ukrainian woodworking industry structure by volumes of sales in 2013-2016, thousand UAH

Source: author's development based on [7].

Despite rapid sales growth, the share of deeply processed wood items and joinery decreased gradually during 2013-2016 because of boost in primary woodworking, especially sawn timber. During 2013-2017 wood production grew by 43.0 per cent, from 1.7 to 2.4 million cubic meters, production of chips and particles – by 34.6 per cent, from 390 to 525 thousand tons. At the same time, plywood and particleboard output remains mostly unchangeable.

Complicated access to high-quality technical and plywood raw materials remains one of the main factors hindering development of deep wood processing in Ukraine. In particular, due to large-scale smuggling, plywood raw materials have been exported massively. Moratorium on unprocessed timber exports can't prevent this practice, though ban covers appropriate tariff lines – HS 44039951

"Unprocessed birch timber" and HS 44039995 "Unprocessed alder timber". Comparison of trade mirror statistics on these tariff lines by State Statistic Service of Ukraine (SSSU) and Eurostat indicates the shadow exports of valuable and scarce assortments of hardwood from Ukraine to EU (table 2).

Table 2. Comparison of SSSU and Eurostat data on bilateral trade in plywood raw materials in 2010-2017, thousand tons

	Exports of HS 440399 from Ukraine to EU according to SSSU	Imports of HS 440399 to EU from Ukraine according to Eurostat	Gap
2010	119,5	266,2	146,7
2011	104,0	303,6	199,6
2012	72,8	195,2	122,4
2013	39,3	184,1	144,8
2014	46,6	254,7	208,1
2015	37,9	210,8	172,9
2016	0,0	120,4	120,4
2017	0,0	22,2	22,2

Source: author's development based on [8, 9].

Data in Table 2 shows that unrecorded exports of birch and alder in the rough from Ukraine to the EU took place long before the moratorium was introduced and amounted up to 208.1 thousand tons in 2014, which is approximately 250 thousand cubic meters, while State Forestry Agency harvests only 350-355 thousand cubic meters of these assortments annually. Although unprocessed supplies of plywood raw materials to the EU fell to 22.2 thousand tons (26.6 thousand cubic meters) in 2017, this issue remains extremely sensitive due to high possibility of smuggling flows restoration.

Regarding technical raw materials for particleboards production significant asymmetries in Ukrainian and European mirror statistics had not been observed. However, the rapid growth of exports to Turkey can be traced under HS heading 440122 "Wood; for fuel, in chips or particles, non-coniferous, whether or not agglomerated". During 2010-2017, the export of chips and particles for boards manufacturing increased by almost 4.6 times – from 75.8 to 347.3 thousand tons. From 93.6 to 98.0 per cent of these export volumes were sent to Turkey. At the same time, Turkish mirror statistics also has significant gaps comparing to SSSU data and reflects higher volumes of technical raw materials exports from Ukraine except for 2014.

Consequently, the risks of uncontrolled valuable raw materials outflow remain quite substantial for Ukrainian wood processors even under the terms of a moratorium. Accordingly, the investment attractiveness of deep wood processing continues to be much lower than in other related industries. In 2017, capital investments in deep woodworking amounted UAH 1.5 billion, while UAH 2.4 billion had been invested into primary woodworking. The whole sector "Manufacture of products of wood, manufacture of paper and printing" (according to Table 1) attracted UAH 6.3 billion of capital investments. Annual increase of capital investments into wood products manufacturing was 11.1 per cent, while sawmilling and planing of wood attracted seven-fold more capital investments than in 2016. Although by the end of 2017 deep wood processing accounted for 48.6 per cent of all foreign direct investment in "Manufacture of products of wood, manufacture of paper and printing", the dynamics of FDI inflow was one of the slowest among other related industries. FDI in manufacturing under CTEA 16.2 increased by 11.5 per cent, from 225.5 to 251.4 million USD, while the whole complex under CTEA 16-18 demonstrated 16.3 per cent FDI growth. Thus, despite all available potential, problems with resource accessibility slow down dynamics of deep woodworking industry development, while related industries that are not burdened by dependence on rare wood assortments show accelerated post-crisis growth.

Timber market legal and regulatory vacuum is another factor oppressing deep woodworking industry development in Ukraine. On March 1, 2018, the Kyiv Regional Administrative Court found the State Forestry Agency's Order #42 illegal and invalid. This Order obliged to distribute scarce hardwood assortments only among those businesses that have their own board, veneer, pulp or paper facilities; and only through specialized auctions. The decision-making to include companies into the list of specialized auctions participants was given to the Ministry of Economic Development and Trade of Ukraine. To be included, companies had to provide the Ministry with documentation on wood processing equipment availability. After abolition of regulation that used to ensure plywood, fiberboard and particleboard producers' primary access to high-quality raw materials, these materials are to be distributed according to the Economic Code under general access conditions along with other wood assortments. This greatly enhances risks to misuse rare wood varieties for the needs that can be met by consumption of less-quality or more widespread assortments. Reducing access to scarce hardwood assortments will negatively affect not only woodworkers themselves, but manufacturers along the value chain as well.

Furniture industry consumes 19.0 per cent of woodworking output, other 16.9 per cent are consumed by construction, 6.9 per cent – by paper manufacturers; intra-industry flows make up 21.7 per cent of woodworking output. The share of domestically produced particleboards used in Ukrainian furniture manufacturing is 74.6 per cent. It should also be noted that wooden furniture industry is in the stage of active post-crisis development and keeps positive foreign trade balance. During 2014-2017, furniture manufacturing grew by 49.4 per cent, from 1.09 to 1.63 million pcs. mainly thanks to producers of furniture for bedrooms. Exports of furniture amounted to 92.8 thousand tons (USD 112.5 million) in 2017, imports – 11.1 thousand tons (USD 31.9 million), providing a positive trade balance of 81.7 thousand tons (USD 80.6 million). Without any doubt, woodworking industry recession will force furniture manufacturers to make a choice between increase in pricey parts imports and production reduction. In both cases, it will rise production costs and reduce the competitiveness of furniture manufacturers in domestic and foreign markets.

To evaluate prospects of woodworking and related industries development under current conditions of domestic timber market functioning, economic simulation had been conducted. Using GTAP economic model, we simulated three following scenarios:

Scenario 1. Giving priority access to technical and plywood raw materials for manufacturers of deeply processed wood products, while simultaneously blocking gray export of scarce hardwood assortments, which will allow up to 75-80 per cent of domestic woodworking production capacities to be used.

Scenario 2. Preserving domestic timber market functioning under Order #42 provisions keeping forestry smuggling problem unsolved, which will result in use of woodworking capacities by an average of 50 per cent.

Scenario 3. Introducing general conditions of domestic trade in timber of all kinds for all market participants, which will lead to misplaced use of scarce hardwood assortments in related industries and utilization of corresponded woodworking capacities by 10-15 per cent only.

The results of economic modeling reveal that implementation of Scenario 1 will contribute to domestic woodworking and furniture manufacturing growth by12.2 per cent; output growth under Scenario 2 conditions is estimated at about 2.4 per cent. On the other hand, general access to scarce timber assortments combining with legal and regulatory vacuum threatens to reduce output in woodworking and furniture industries by 8.0 per cent. At the macro level, the industrial production growth in Ukraine is estimated at 0.21 per cent under the Scenario 1 and at 0.04 per cent under the Scenario 2. In case of the Scenario 3, industry growth rate is expected to slow down by 0.15 per cent. Regarding GDP dynamics, it is estimated at 0.125, 0.026 and -0.107 per cent, respectively. The number of jobs under the Scenario 1 will increase by approximately 24.8 thousand, which will reduce the unemployment rate by 0.14 percentage points – from 9.87 per cent at the end of 2017 to 9.73 per cent in medium term. Under the

Scenario 2, the number of newly created jobs is estimated at 4.96 thousand and unemployment reduction – by 0.03 percentage points. Under the Scenario 3, there will be a loss of about 19.4 thousand jobs, and the unemployment rate will increase by an additional 0.11 percentage points, reaching 10 per cent.

The woodworking and furniture export growth under the Scenario 1 is expected by 20.2 per cent, unprocessed timber exports will decrease by 1.4 per cent. An increase in domestic market supply will contribute to a woodworking and furniture goods prices reduction by an average of 3.1 per cent, while unprocessed wood prices will increase by 0.3 per cent. Under the Scenario 2, same trends of the lower order will be traced. But under the Scenario 3, woodworking and furniture exports will decrease by 10.1 per cent, while unprocessed wood exports will increase by 0.5 per cent. Domestic prices for wood and furniture products will boost growth by 1.8 per cent.

It should be noted that GTAP simulations are based on official statistic data. Therefore, the effects timber export reducing under the Scenario 1 and the increase of this export under the Scenario 3 are somewhat underestimated. However, the simulation results clearly indicate that ensuring the priority access for wood manufacturers to scarce hardwood assortments will increase the production and export of high value added goods in woodworking and related industries and reduce timber import. At the same time, the import of industrial machines and equipment is expected to increase by 0.2 (Scenario 1) and 0.04 per cent (Scenario 2) because of domestic manufacturing intensification. Scenario 3, on the contrary, will lead to an increase in exports of unprocessed timber and an increase in imports of finished products from it, primarily in the woodworking and furniture industry (3.5 per cent) and paper production (1.3 per cent).

Given the potential negative consequences for the domestic woodworking industry, it seems expedient to urgently resolve this issue at the legislative level. It is necessary to adopt the Law "On Timber Market" that must be built upon the principle of targeting sales of scarce domestically logged hardwood assortments to enterprises that have confirmed their status as deep wood processing products manufacturers. The law should oblige to make a list of specialized woodworking enterprises for each valuable timber assortment and guarantee them right to purchase at least 70 per cent of amount of this timber that has been processed by them in previous year. Distribution above this volume should be established through specialized auctions to those manufacturers who have their own board, veneer, pulp and paper facilities. Until entry into force of the Law it is necessary to temporarily restore the validity of the Order #42. Along with this, it is necessary to ensure the entry into force and practical implementation of the Draft Law on Amendments to some Laws of Ukraine on the Conservation of Ukrainian Forests and the Prevention of the Illegal Export of Raw Timber No. 5495 dated 06.12.2016. This Draft Law aims to strengthen the moratorium on unprocessed timber exports, including plywood raw materials, through the establishment of criminal liability for its smuggling. Another novelty of Draft Law bans exports of wood for fuel in logs, in billets, in twigs, in faggots or similar forms (HS 440110), which now serves as a loophole for the illegal export of wood in the rough.

Conclusions. Woodworking industry of Ukraine demonstrates outstanding post-crisis recovery mainly thanks to introduction of moratorium on unprocessed timber. Nevertheless, industry develops mostly primary wood processing that consumes common coniferous assortments, while deep wood processing stagnated gradually. Complicated access to high-quality technical and plywood raw materials remains one of the highest barrier to further domestic deep wood processing development. For the most part, the problem is caused by two factors: scarce hardwood assortments (birch, alder) smuggling and timber market legal vacuum. Hence, part of valuable assortments leaks into the foreign markets and another part is misused for the needs that can be met by consumption of less-quality or more widespread assortments. To solve these problems, new legislative is to be developed upon the principle of targeting sales of scarce domestically logged hardwood assortments; and moratorium on unprocessed timber exports is to be strengthened through the establishment of criminal liability for timber smuggling and through ban on fuelwood exports.

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