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Review of the Impact of the Ukraine-EU Free Trade Agreement on Manufacturing Industries (Mechanical Engineering, Chemical and Light Industry)*

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SUMMARY. The article gives a definition to the concept of 'deep integration' taken by the Ukrainian Government as a framework concept for the establishment of a Ukraine-EU free trade area. The paper uses the term 'deep free trade' or 'free trade area +'. It offers a review of the Ukrainian economy and its readiness to open such industries as mechanical engineering, chemical and light industry to free trade with the EU. It examines which cooperative steps might be taken in the sectors in question in the framework of a free trade area by identifying specific features of those sectors in Ukraine and the EU through SWOT analysis and review of certain provisions in relevant agreements between the EU and other countries. It proposes to forecast the possible impact of a free trade area on stakeholders' position regarding the agreement by using the 'stakeholder approach' (identifying and classifying interest groups) and the European Commission's method of 'impact assessment'. Based on the results of this research, conclusions are made concerning the fundamental negotiation principles for talks between Ukraine and the EU as to the economic and trade component of the new 'enhanced agreement'.

KEY WORDS. Free trade area (FTA), deep free trade (FTA+), association agreement, acquis, mechanical engineering, chemical industry, light industry, government support, SWOT analysis, industrial policy, technical assistance, harmonization of legislation, international standards.

Introduction

The Partnership and Cooperation Agreement (PCA) will expire in 2008, and Ukraine has a unique opportunity to achieve a fundamentally new level of relationship with the EU based on a new 'enhanced agreement'. Besides its political substance and arrangements on the common foreign and security policy (CFSP), it should comprise an economic and trade component which can hopefully be formulated in the Free Trade Area (FTA) Agreement[1]. In

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[*] This article was translated from its original in Ukrainian.

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[1] Article 4 of the PCA and Ukraine-EU Action Plan provides for initiation of talks on free trade area right after Ukraine's accession to the WTO. Economic and trade component of the agreement will enter into force immediately after signing because it does not require ratification by all Union members.

fact, the strategy of Ukraine's development in the next several years will depend on parameters of that FTA Agreement.

In addition to cancelling custom tariffs, liberalization of services, and ensuring free movement of production factors, the proposed concept of 'deep integration' with the EU, based on the model of deep free trade (FTA+), also embraces the reduction of non-tariff barriers (unification of standards for industrial products, simplification of custom procedures, etc.).

Due to the fact that Ukraine has no clear EU membership prospects in the nearest future, it may opt to pursue selective harmonization of its legislation with the EU law because a sweeping and unsystematic incorporation of EU regulations would be extremely expensive and economically inexpedient at this stage. In these circumstances, such a model of integration as FTA+ offers a selective and balanced approach to the incorporation of the *acquis* in Ukraine. In its turn, it will allow the signing of the Agreement on Conformity Assessment and Acceptance of Industrial Products (ACAA) in key industries.

The issue of European trade integration is discussed in the works of many Ukrainian researchers, in particular I. Bilyk, I. Burakovsky, S. Vasyliev, S. Galkin, V. Halchynsky, R. Greensberg, V. Kudrov, I. Lukinov, D. Lukianenko, V. Sidenko, O. Shnyrkov and others. The impact of free trade agreements between the EU and various countries around the world was studied by numerous European expert groups lead by such famous researchers as Paul Brenton, Michael Emerson, Marius Vahl, Alan Mayhew and others. However, today this issue is examined in a fundamentally new context when the EU has 27 members and develops intensively and pragmatically its trade and economic relations with the neighbouring countries. Therefore, it is necessary to research further the parameters and economic implications of the Free Trade Agreement between Ukraine and the EU.

Until recently, the attention of economists, who analysed rather the impact of 'traditional trade' than 'deep free trade', was limited to reviewing only the consequences of removing tariffs and quotas, because these indicators are the easiest to use in quantitative modelling. Therefore, a standard modelling method (general estimated balance) was applied in the 1999 review[2] of the FTA impact on the Ukrainian economy. However, such a model may be used only to assess the FTA among countries with similar level of economic development and can hardly evaluate the impact of lifting broader trade restrictions, such as incompatible technical standards, liberalization of service trade, and improvement of regulatory framework. In our opinion, the quantitative assessment of the impact of free trade in goods[3] should become the underlying platform for development of conditions for favourable tariff liberalization. At the

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[2] Brenton Paul. Study on the economic feasibility, general economic impact and implications, of a free trade agreement between the European Union and Ukraine according to the Partnership and Cooperation Agreement. — Prepared under EES Project UK 26. — Brussels, 1999.

[3] The Ukrainian Ministry of Economy makes the quantitative assessment of the impact of liberalisation of trade in goods because Ukraine's tariff concession schedules in the framework of accession to the WTO are confidential.

same time, it should not substitute but supplement the fundamental qualitative analysis.

In this article, we will examine the status and prospects for the development of a FTA+ agreement in three sectors: mechanical engineering (its development trends determine the level of economic development and growth potential), chemical industry (a key supplier for most industries), and light industry (trade in its products has been fully liberalised worldwide).

The goal of this article is to identify possible steps in cooperation between Ukraine and the EU in mechanical engineering, chemical industry, and light industry in the framework of a deep free trade area agreement and forecast the qualitative impact of drafting and implementation of this agreement on various interest groups.

With this goal, we need to address the following research objectives:

✓Review the evolution of the concept of 'deep integration'.

✓Examine the Ukrainian manufacturing industry (industries selected for review) and identify the development trends and problems;

✓Outline the newest trends in the EU industrial policy and forecast their impact on the FTA negotiations;

✓Proved an analytical assessment of the EU industry and review various lobbying groups;

✓Identify components of industrial cooperation using agreements between the EU and third countries as examples; and,

✓Study the impact of integration of certain manufacturing sub-sectors in the new EU members.

Achieving this goal will help to rationally and pragmatically formulate Ukraine's negotiation positions, including requirements and counterproposals to the EU.

The concept of 'deep integration'

At the current stage of global economic development, regional integration has become global in terms of its expanse while its evolution goes hand in hand with certain challenges which the integrating countries are facing.

In order to review the substance of regional trade agreements, let us analyse the classical chart of forms of international economic integration in Figure 1[4].

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[4] Ekonomichna integratsiya ta globalni problemy suchastosti [Lukyanenko D. H. *Economic integration and global problems of today*, Kyiv, KNEU, 2005, p 76].

Forms of international economic integration	Reduction of domestic tariffs	Elimination of tariffs	Common external tariff and trade policy	Free movement of production factors	Harmonization of economic policy	Political integration
Preferential trade areas	■					
Free trade area (association)	■	■				
Customs union	■	■	■			
Common market	■	■	■	■		
Economic and monetary union	■	■	■	■	■	
Political union	■	■	■	■	■	■

Figure 1. Forms of international economic integration

As we can see, the given model views integration as a staged process where each form is a logical precondition for the next one. However, the analysis of global integration demonstrates that the majority of such groupings prefer to set up Free Trade Areas (FTAs) and customs unions, and this can be explained by different levels of economic development in integrating countries.

Moreover, simpler forms may in practice combine certain features and elements of more progressive forms of integration. For instance, the majority of free trade agreements provide for a certain investment regime that leads to liberalization and removes restrictions on the movement of capital. Within the classical approach, as we can see from Figure 1, such degree of integration is characteristic of a more advanced form of integration – the common market.

Present-day free trade agreements do not only remove tariff restrictions. The concept of 'deep integration' becomes more and more inherent in regional trade agreements. This concept envisages removal or reduction of non-tariff restrictions and covers trade in services as well as issues that go beyond the WTO context. The economic literature of recent years refers to such modified FTAs as 'deeply integrated trade'[5], 'comprehensive trade' or 'deep free trade'. The 'deep integration' may be defined as liberalization broadened to cover not only the movement of goods and services but also the movement of capital, lifting of non-tariff restrictions for trade in goods through harmonization and/or mutual recognition of conformity assessment regarding techni-

[5] Tor-hovelna polityka Yevropeiskoho Soyuzu [Shnyrkov O. I. *Trade Policy of the European Union*, Kyiv, 2005, p. 131].

cal standards, coordination of domestic market rules, and extension of commitments to include a number of aspects of domestic economic policy.[6] At the same time, the elements of 'deep integration' may vary depending on specific aspects and priorities of integrating countries.

It should be noted that the key idea of 'deep integration' consists of achieving harmonization of regulations, which implies undertaking binding commitments. In its turn, it results in creating a more competitive business environment.

Identifying sectoral problems in Ukraine

Mechanical engineering

Overall status

In recent years, the share of mechanical engineering in the total industrial output has been constantly growing and the growth rate remains one of the highest among other industries. However, the production dynamics is negatively affected by an undeveloped domestic market for many types of engineering products. Therefore, engineering enterprises normally utilise only 50—65 % of their production capacities.

The mechanical engineering industry is structurally non-homogeneous; it has both developed enterprises with access to external markets and depressive ones. The disparity of economic status of sub-sectors has been caused by a number of reasons primarily tied to diverse condition and dynamics of markets for various engineering products.

One of the development factors in this sector today is the growing demand for engineering products generated by foreign companies operating in Ukraine and domestic enterprises. The domestic market demand was growing last year due to the need to retrofit the fixed assets and implement power saving technology. Furthermore, growing investment demand, increasing income of the population and active consumer crediting stimulate sales of cars and home appliances.

The share of value-added in the total product output dropped from 36 to 30 % in 2000—2003. It means that the intermediate consumption in this sector is growing and labour productivity is going down.

Table 1

Current trends in mechanical engineering in Ukraine

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[6] *Brenton Paul*. Study on the economic feasibility, general economic impact and implications, of a free trade agreement between the European Union and Ukraine according to the Partnership and Cooperation Agreement. — Prepared under EES Project UK 26. — Brussels, 1999.

Positive	Negative
• Moderate growth of domestic demand due to growing consumer crediting • Local enterprises gain greater dynamics due to growing investment inside the country • High price component of competitiveness • Most government support measures incompatible with international standards and commitments of Ukraine have been revoked	• Underdeveloped domestic market and low purchasing capacity of consumers • Idle production capacities at enterprises • Shrinking employment • Decreasing labour productivity • Obsolete technology • Lack of resources to launch a comprehensive technological retrofitting of production facilities • Standards need to be harmonized • High degree of import dependency on EU countries

International trade

The share of engineering products in the total export of marketable products significantly increased in 2000—2004. Despite a small decline in 2005, the tendency recovered in 2006 and went up to 12.1 % already in January of the same year, 13.5 % in the first quarter, and 14.4 % in the first half of the year.

The share of mechanical engineering in the product exports of 2005 was 13.5 %, ceding only to metallurgy exports and staying approximately at the same level as the exports of mineral products (Fig. 2).

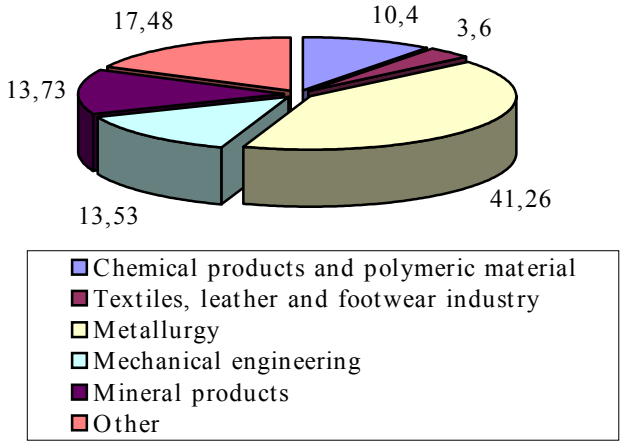

Figure 2. Commodity composition of export in 2005 (%)

Source: State Committee for Statistics

The statistics in Fig. 3 demonstrate that the share of engineering products in the general structure of exports continuously increased in 2000—2005. The share of mechanical engineering was almost 29 % in the period of January—June of 2006. These figures indicate the beginning of intensive modernization of Ukrainian enterprises which buy the latest imported equipment and reveal high investment activity in the Ukrainian economy.

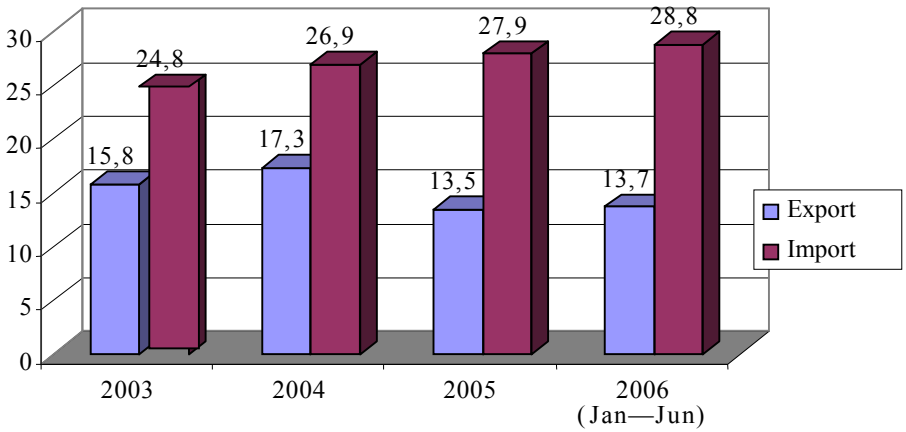

Figure 3. Share of mechanical engineering in the product structure of international trade of Ukraine (%)

Source: State Committee for Statistics

According to Eurostat (Table 2), import component prevails in the trade in engineering products from the EU: imports increased by 2.2 in 2001-2005. At the same time, although the share of Ukrainian export to the EU in this sector is not large relative to the total Ukrainian exports and the export volume is not significant, it fluctuates and tends to gradually grow. Therefore, today the EU-25 is the major trading partner for domestic mechanical engineering.

Table 2

Ukraine-EU trade in engineering products (million Euros)

	2001	% (total export/ import to the EU)	2003	%	2005	%	Share in the total export/ import to the EU (%)
Export from Ukraine to the EU							
Mechanical engineering, in-	310	5.8	628	11.0	588	7.7	0.33

cluding:							
Machines	181	3.4	275	4.8	400	5.2	0.14
Transport equipment	129	2.4	353	6.2	188	2.5	0.19
Total export to the EU	5,276	100.0	5,715	100	7,666	100	0.65
Import from the EU to Ukraine							
Mechanical engineering, including:	2,598	37.3	3,542	67.3	5,754	44.1	2.25
Machines	1,860	26.7	2,404	27.2	4,342	33.3	1.41
Transport equipment	738	10.6	1,138	12.9	1 412	10.8	0.84
Total export to the EU	6,967	100.0	8,830	100.0	13,033	100.0	1.23

Source: Eurostat

It should be noted that the mechanical engineering sector can boast a high level of export to the Russian Federation, which recently, however, showed a downward trend.

Government support

Most EU supranational economic policy makers are firmly of the opinion that government support has a negative impact on the efficient use of resources, prevents free competition and undermines the unity of the EU market. Therefore, EU experts always closely scrutinize this issue in order to achieve uniformity in the competition policy.

Mechanical engineering in Ukraine enjoys various subsidies in the form of direct support of this sector or indirect subsidising (tax credits/benefits, deferred tax payments).[7]

It should be noted that although the EU and WTO rules allow establishing tax credits for enterprises, their use is restricted. For instance, the EU may accept tax credits to support investment projects but not to cover operating expenses of companies (i.e. subsidising their operation).

Tax credits were used to support such priority industries as automotive, ship and aircraft construction and space industry. The list of enterprises entitled to government support in each of the priority industries was approved by the Cabinet of Ministers of Ukraine and the government support to priority industries was regulated by certain laws of a temporary nature (see Table 3).

Table 3

[7] The deficiency of indirect subsidies is that normally they are not reflected in official budget documents; they are non-transparent and create incentives for corruption.

Laws instituting support programs for mechanical engineering industries

Industry	Legislation	Expected period	Remaining benefits
Shipbuilding	*The Law on Measures of Government Support for Shipbuilding Industry in Ukraine* of 18.11.1999, No. 1242-XIV	01.01.2001 – 01.01.2005	Excise duty, financial government support through a mechanism that eased access to loans
Aircraft construction	*The Law on Government Support of Aircraft Construction Industry in Ukraine* of 12.07.2001, No. 2660-III	01.01.2002 – 01.01.2007	Excise duty
Automotive construction	*The Law on Stimulating Automotive Production in Ukraine* (as amended) of 19.09.1997, No. 535/97-BP *The Law on the Development of Automotive Industry,* of 18.03.2004, No.1624-IV	01.01.2002 – 01.01.2007 By 01.01.2008 By 31.12.2008	Import duty
Space industry	*The Law on Government Support of Space Activity* of 16.03.2000, No. 1559-III	By 01.01.2009	Excise duty

Source: Government support to producers in Ukraine: the reform in accordance with the WTO and EU rules. Kyiv, 2004

Producers were exempted from import duties, land tax, VAT tax and excise duty. However, most of these tax credits were reconsidered and revoked by *The Law on the State Budget of Ukraine for 2005*.[8]

Chemical industry

Overall status

The GDP share of value-added generated by the chemical industry dropped from 2.5 % to 2.1 % in 2000—2003. The same downward tendency can be observed in the relation of value added to output, which demonstrates an insufficient level of restructuring in this industry.

The production cost of chemical products is high. In general, many enterprises in this sector are in poor condition (a large number of them are unprofitable and the profitability level of the industry is about 5 %). However, it should be noted that the chemical industry demonstrated a positive development tendency and better financial and economic performance of chemical enterprises in 2005—2006 primarily due to favourable prices for chemical products on the external market.

Table 4

[8] The Law on the State Budget of Ukraine for 2005 of 23.12.2004, № 2285-IV.

Current tendencies in chemical industry

Positive	Negative
• approximating the policy of government support to international standards.	• the sector requires restructuring; • external/international trade of the industry is predominantly focused on semi-products and products with low processing level (about 60% on average); • undeveloped processing industry within the chemical sector; • low technical and technological level; • inadequate protection of domestic producers; • high production cost; • unsatisfactory condition of many enterprises in this sector; • low level of product certification in this sector.

International trade

As we can see from Figures 2 and 4, the share of the chemical industry was 10.4% in the commodity composition of exports and almost 14% in the commodity composition of imports in 2005. Semi-products and products of low processing level (about 60% on average) prevail in the export. One cannot but emphasize that the sector has low technical and technological levels and low levels of product certification which significantly affects the volumes and composition of domestic export.

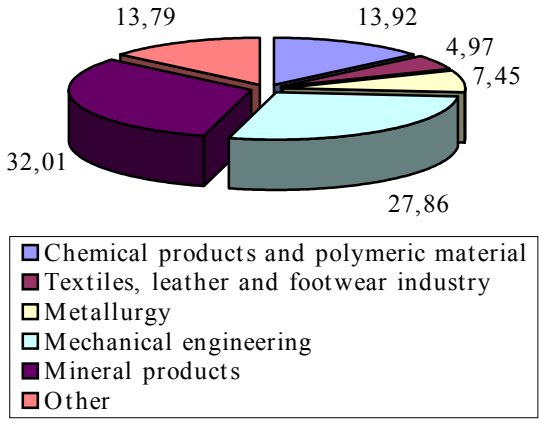

Figure 4. Commodity composition of import in 2005 (%)
Source: State Committee for Statistics

Trade with the EU in products of this sector has the following characteristics: firstly, the volume of export flows is growing although the share of

chemical industry in the total export to the EU decreases, and secondly, imports are soaring, doubling in 2001–2005 as can be seen from the statistics in Table 5. Moreover, domestic chemists are the target of the EU antidumping probes.[9]

Table 5

Ukraine-EU trade in chemical products (million Euros)

	2001	% (in export/ import to EU)	2003	%	2005	%	Share in the total export/ import to the EU (%)
Export	498	9.3	493	8.6	499	6.5	0.53
Import	1,007	14.4	1,323	15.0	1,997	15.3	1.22

Source: Eurostate

Government support

Up to 2003, chemical enterprises enjoyed profit tax preferences (provided that they invested in fixed assets). Supplies of all medicines and medical products were exempt from VAT in 2002–2003. However, the scope of such preferences was significantly reduced already in 2004 by *The Law on the State Budget for 2004*.[10]

Interestingly enough, direct government disbursements to the chemical industry were practiced until 2003. In 2004, to prevent the rise of prices for medicines the Ukrainian Cabinet of Ministers resolved[11] to introduce a compensation scheme for medicine producers to reimburse them for losses due to the rise of excise duty rate for ethyl alcohol (through the mechanism of tax anticipation bills). Therefore, major support to the chemical sector was provided in the form of tax expenses primarily for the pharmaceutical industry. The nature of government support has eventually changed; a portion of tax credits was gradually replaced by the government assistance (for instance, professional assistance programs).

To summarize the above, it should be noted that wrapping up such support programs demonstrates positive changes in the policy of government subsidies, gradual alignment of conditions for enterprises of various sectors of economy, and approximation of this policy to international standards.

Light industry

[9] For instance, the European Commission established the final antidumping duty on potash (19.61–48.19 Euro per ton) in 1992 and on carbamide (8.85 to 16.84 Euro per ton) in 2002.

[10] The Law on the State Budget of Ukraine for 2004 of 14.12.2004, № 2236-IV.

[11] On Approving the Procedure of Compensating Producers — Business Entities for Additional Expenses Incurred Due to the Rise of Excise Duty Rate for Ethyl Alcohol Used for Production of Medicines from 1 January 2004, No. 2077 of 30.12.2003 (revoked in 2005).

Overall status

The importance of light industry has declined over time. It is evidenced by the fact that the share of light industry decreased eightfold in the composition of industrial production: from 10.8 % in 1990 to 1.3 % in 2003. And only in 2004—2006 it retained a comparatively stable level of 1—1.1 % in the composition of industrial production.

Light industry comprises more than 10,000 enterprises, including some 800 large and medium enterprises, which together make a multi-cycle complex that includes a full cycle of technologically interlinked manufactures. Small business has significantly developed in this industry (almost 2/3 of the total number of companies). Moreover, 99% of all companies operate in the private sector.

The relationship of value-added and output demonstrates a growing tendency that exposes signs of positive restructuring in this sector, improvement of technology and replacement of labour-intensive manufacturing due to tight competition with foreign producers.

Table 6

Current trends in light industry

Positive	Negative
• positive restructuring; • reasonable government assistance	• high dependence on raw materials supplied by the customer; • employment level tends to drop in this sector; • illegal import of light industry products to the Ukrainian market

International trade

While reviewing the status of international trade in products of light industry, we have to first examine the commodity composition of international trade. As we can see from Figures 2 and 4, the share of this industry in 2005 did not exceed 3.6 % in the commodity composition of export and 5 % in the commodity composition of import. However, export-import transactions are quite unbalanced in this sector (Fig. 5).

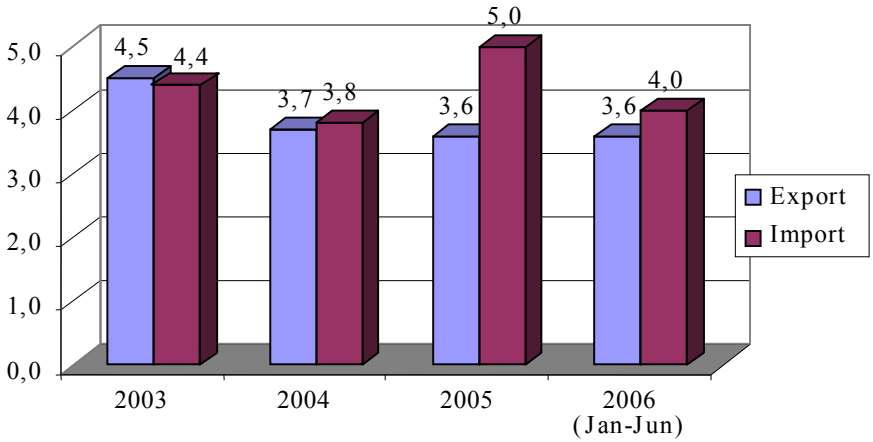

Figure 5. Dynamics of Ukraine's international trade in products of light industry (%)

Source: State Committee for Statistics

The key aspect of textile goods production is high dependence on customer supplied raw materials, the amount of which exceeds by 1.3 the amount of producers' own raw material. At the same time, light industry faces one huge problem: the Ukrainian market is overfilled with illegal goods and goods produced in the shadow sector of economy.

Representatives of light industry believe that the structure of this sector needs to be improved and conditions must be created for the vertical integration of manufacturing along with attraction of foreign investment, expansion of wholesale and branded trade networks, strengthening of small business, and taking measures to 'de-shadow' the manufacturing and sales.

Under Article 21 of the PCA with the EU, trade in textile and sewing products is regulated by a separate agreement – EU-Ukraine Agreement on Trade in Textile Products. It should be noted that cancelling the quota regime for Ukrainian textile goods exported to EU countries allowed the expansion of the Ukrainian export to those countries and save jobs and therefore encouraged the development of this industry in Ukraine.

Government support

Enterprises of light industry were subsidised through the mechanism of tax expenses in 2002–2004. It included tax preferences and credits for enterprises located in special economic areas (SEAs) and priority development territories (PDTs). As tax preferences for the industry were cancelled due to the elimination of SEAs and PDTs, no support measures are anticipated for the industry in terms of domestic trade.

Overview of the EU industry

New trends in the EU industrial policy

The supranational industrial policy of the European Union is shifting from specific sectoral interventionalism towards an integral approach which consists of the creation of appropriate framework conditions for the development of companies and innovation at enterprises. This goal is pursued with the help of such tools as an improved regulatory system, common market, innovation and research policy, social policy and employment policy.

We studied the official documents of the European Commission and reviews prepared by associations of industrialists in the EU and we identified the newest specific trends in approaches to and implementation of joint industrial policy, which, in our opinion, are the most illustrative and may motivate the European side to take a certain position in negotiating the trade and economic cooperation with Ukraine.

First, the relocation of production sites from the EU to countries with lower cost production factors has not yet become an overwhelming tendency but it poses a potential threat to the EU employment market, especially to low skilled employees. However, the new industrial policy of the EU[12] seems to treat the movement of manufacturing capacities by companies as an objective process which is closely connected to direct international investment and, therefore, is of interest to our country.[13] With its economically advantageous geographic position and low cost of production factors, Ukraine may become the place to outsource European production.

Second, the EU is witnessing an unprecedented strengthening of policy that promotes intellectual property rights (IPR) and suppresses counterfeiting and thus grows into one of the key factors of EU competitiveness. In our opinion, this may add pressure on partner countries, including Ukraine, in the context of the struggle against counterfeits and piracy as well as protection of national brands. As the result, Ukraine may come across tough EU requirements regarding IPR protection in the context of an enhanced agreement on FTA.

Third, the EU launched a program to simplify its legislation in 2005. Improving quality and simplifying the EU legislation was identified as a challenge for a wide spectrum of industries, including construction, automotive construction, communications and food industry. Furthermore, the legislation on wastes is overly burdensome for small and medium enterprises.[14] There-

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[12] The Commission Communication «Implementing the Community Lisbon Programme: A Policy Framework to Strengthening the Policy Framework for EU Manufacturing: — towards a more integrated approach for Industrial Policy» (COM 474) from 5 October 2005.

[13] Relocation: Challenge and Opportunity. www.unice.org

[14] «Simplifying EU legislation makes life easier for citizens and enterprises», MEMO/05/394, Brussels, 25 October 2005.

fore, this tendency may potentially have a positive impact on approximation of domestic legislation to the European legislation.

Fourth, today the EU aggressively promotes structural transformations in private business. The EU Structural Funds and similar tools of member states are expected to address this issue. The EU needs to structurally transform its steel, leather and textile, furniture, printing, automotive and ship construction, footwear and ceramic industries and a part of its food industry. The European Commission intends to include the aspect of preparation for the changes and transformation management in the new programs of Structural Funds for 2007–2013. The preparation for structural changes will include the reform of employment markets and enhancement of economic development of the regions. Ukraine may be provided with relevant technical assistance in the context of enhancing its bilateral cooperation under the FTA+.

Fifth, the EU will pay an increased attention to market access in the nearest future. The goal of this strategy is to review available mechanisms and instruments of concentration in the sectors and markets with the highest potential in terms of competitiveness. Together with other stakeholders, a market access strategy will be developed and implemented in selected countries. It should be noted, however, that the development of market access instruments may result in new requirements to partner countries (including Ukraine, new industrialized countries, etc.) to open their industrial commodity markets and a respective position in the context of FTA negotiations.

Sixth, the EU defined a new integral approach to support of research and innovation, including specific initiatives in a number of industrial sectors. It is expected that innovation investment in the European industry will be facilitated by the European Technology Platforms which have already proved their efficiency in shaping the policy on highly technological industries. Therefore, in the context of Ukraine's Euro-integration, Ukraine faces quite a challenging task of identifying the areas of cooperation in research and development (R&D).

Sectoral aspects of the EU industrial policy

Mechanical engineering

Mechanical engineering and systemic sectors (in particular telecommunication) generate approximately one third of the value-added of the EU industry and boast a medium to high growth rate and high level investment in research.

Comprehensive analysis of the current status of individual subsectors helps to identify such common trends in the development of the engineering industry in the EU as enhancing the protection of intellectual property rights, increased attention to innovation, environmental awareness, and regular upgrade of technical standards.

Furthermore, it should be noted that access to international markets is of great importance to enterprises operating within the common market, especially telecommunication, electromechanical engineering and automotive industry.

Motor-vehicle construction

Until 1992 the EU car market was segmented by various internal barriers and did not have a common approach to the regulation of trade with third countries. The domestic market was a combination of the customs tariff (from 10% in the common external tariff) and a free trade area with quantitative import restrictions for certain countries. For instance, 2,300 cars in Italy from 1986, 3% of the domestic market in France from 1981, 11 % in Great Britain from 1977. It should be noted that quantitative restrictions were explicitly discriminatory against the import of cars from Japan. Therefore, voluntary export restrictions were introduced against Japanese imports since 1992 at the Union level until 1999. Then, the EU imposed a 9% duty on car imports.

In 2003 Western Europe accounted for 95% of EU vehicle production and 31.4% of the world's vehicle production, and the problem of domestic market protection was superseded by the problem of limited access to markets of other countries for EU exporters. At the same time, trade-related investment measures (requirements as to the share of domestic production, components, tax credits for producers, strategic programs of domestic investment in the industry) have quite a restrictive nature.

A summary of problems and prospects of the EU automotive industry is represented in Table 5 with the help of the SWOT[15]-analysis.

Table 7

SWOT-analysis of the EU automotive industry[16]

S	• Competitive market and exacting consumers as innovation driving factors • Leadership in technology and infrastructure • Innovative and quality products (with high consumer characteristics) • Presence in the markets of developed and developing countries • Leadership in production of trucks and buses • Effective government policy
W	• Competition with Japanese competitors may potentially shrink the market share of European producers • Less consumer-oriented than the US automotive industry for instance • Numerous comparatively small companies, primarily suppliers, who appear to be potential targets of mergers and acquisitions
O	• Potential leadership in new technologies • Strong positions on the broad Chinese market • Possibility to achieve economies of scale and intensive innovation through deeper

[15] SWOT is a method of analysis that distributed all factors or phenomena into four categories: Strengths, Weaknesses, Opportunities and Threats.

[16] Trends and drivers of change in the European automotive industry: Mapping report. European Foundation for the Improvement of Living and Working Conditions, 2004.

	cooperation • Growing external demand for trucks and buses • Potential development of a consumer-oriented parts production system • Export of related services: design and engineering • High potential of gaining access to new sales markets through setting up of production networks
T	• A threat of shrinking market share due to weak financial position of certain manufacturers • A threat of loss of technological leadership, especially in spare-part production • High level of competition on the part of Japanese and U.S. producers • Relocation of manufacturing from the EU to countries with lower cost of production factors

Shipbuilding

The world's shipbuilding is extremely concentrated. Japan, South Korea, China and EU account for 90% of the world production. After the Asian crisis in 1997, the EU's share continually decreased from 19% in 2000 to 13% in 2001 and to 7% in 2003.[17]

Practically all EU countries with shipbuilding capacities have one or two large enterprises while the rest are predominantly small and medium shipbuilding yards.

It is quite important that shipbuilding industry has a relatively limited traditional set of trade instruments: the WTO anti-dumping and anti-subsidy rules normally do not apply to the industry. Commercial vessels are passed into the user's hands directly in the ship-yards and no physical delivery or customs clearance is needed; in other words ships are not imported under traditional schemes. Furthermore, ships are normally not produced in series: they are ordered and tailored to the needs of individual customer.

It should be noted that the EU has developed a new tool of trade protection from unfair pricing in the shipbuilding industry, similar to antidumping measures. It consists of making an additional payment to shipbuilders, which takes into account the level of unfair pricing. The EU may ban respective ships from loading or unloading in their ports till payment is made. However, the use of this trade instrument was suspended in expectation and ratification of the OECD agreement respecting shipbuilding and ship repair by the United States[18].

Since the early 1970s, sectoral support was regulated by seven successively adopted directives. The seventh directive, which was prolonged every year till September 1996, was meant to shift the focus of government support, limited to 9%, from helping the entire sector to construction of those types of ships which would make the EU shipyards relatively competitive. Since 31 December 2000, the rules of government support applicable to shipbuilding

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[17] Tor-hovelna polityka Yevropeiskoho Soyuzu [Shnyrkov O. I. *Trade Policy of the European Union*, Kyiv, 2005, p. 118].

[18] Use pro spilni polityky Yevropeiskoho Soyuzu [Nicholas Musis. *All about Common Policies of the European Union, Kyiv*, 2005, p. 312].

are the same as in other industries. Today this sector may only receive assistance for innovation, R&D, environmental safety, full or partial close down of a company, restructuring assistance and regional assistance.[19]

Today the European Commission focuses its efforts on enhancing the competitiveness of its shipbuilders by stimulating research and support of industrial cooperation.

Chemical industry

Regardless of the fact that the EU is among the world leaders of chemical manufacturing, its share in the world output tends to gradually decrease.

Chemical production is one of the major value-added generating subsectors in the EC-15. Enterprises of this sector are the key suppliers for all other industries with approximately 30% of chemical production being used for further industrial processing.

The sector displays the following trends:

- Low growth of demand in Europe and high demand level in Asian countries, especially China;
- A threat of growing cheap imports from Russia;
- An increasingly growing import of products (end products) to Europe in this sector, respectively affecting prices and the status of EU chemical producers;
- Relocation of manufacturing capacities;
- High production cost[20];
- High power intensity triggers environmental concerns[21] and implementation of power saving technology.

These conditions of the industry reduce the interest of investors in placing their capital and decrease R&D expenses and, as the result, undermine technological capacities.

Due to the high power intensity of the industry (it consumes approximately 12% of power in the EU), the natural conclusion would be that a stable access to power is a fundamental factor able to sustain competitiveness of the EU chemical industry.

Despite liberalization of the power market, energy prices remain higher than in other regions. Furthermore, trade in chemical products depends on competitiveness and a reliable logistic system. Supply cost averages 8 to 10% of the total turnover of the industry[22]. Today the EU has quite an overloaded transport infrastructure in key industrial regions of the Union. Therefore, the EU needs to improve the supply channels and logistic systems in order to optimize the industry.

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[19] Ibid, p. 268.

[20] Price for energy in Western Europe is five times as high as in Russia and three times as high as in Ukraine.

[21] Environmental protection expenses in the EU-15 amount to approximately EUR 7.7 billion a year, i.e. approximately 23 % of all environmental expenses of the entire EU-15 industry.

[22] Logistic costs in Europe are 13 % higher than in the U.S.

On 29 October 2003, 40 directives and regulations were replaced with a new regulatory framework – an integrated system of Registration, Evaluation, Authorization and Restriction of Chemicals (REACH)[23].

In terms of trade, some 25 % of EU chemical products are exported to markets of third countries. Interestingly enough, most OECD countries have low import tariffs as the result of the Chemical Tariff Harmonization Agreement (CTHA) concluded at the Uruguay Round.

Light industry in the EU (using production of textile, clothing and footwear as an example)

Light industry (in particular textile and footwear manufacturing) accounts for 8% of the total value-added of the EU industry and its growth rate is low or negative. The industry faces a number of challenges, in particular: comparatively low research expenditures, the need of structural reform, implementation of innovations, protection of intellectual property rights, and better access to world markets.

EU is the largest world importer of textile and clothing as well as exporter of textile goods, and is the second largest exporter of clothing. In terms of output and employment, this industry plays larger role in economies of the new member states (EU-10) than in the EU-15. At the same time, the EU-10 export textile and clothing (66 % to 100 % depending on the country and goods) to the EU-15.

It should be noted that the EU protected domestic producers against imports from third countries for a long time. For that purpose, in addition to unilateral measures, the EU widely used bilateral agreements and a multilateral Multi-Fiber Agreement (MMA) (GATT Agreement on International Trade in Cotton Textiles). The MMA allowed using quantitative restrictive quotas, in particular as part of the voluntary export restriction under respective bilateral agreements for four to five years. However, the Agreement on Textiles and Clothing concluded at the Uruguay Round was meant to gradually remove quantitative restrictions by 2005. The EU regularly increased the quotas for the WTO member states; the quotas have doubled from 1994 to 2005. It should be noted in this light that, in the second half of 1990s and 2000s, the traditionally competitive European Union pursued the policy of adaptation of European producers to new conditions of competition on the domestic market by reducing the number of quotas and increasing their scope; enhancing protection of intellectual property rights in this industry; improving education, training and employment; broadening access of small and medium companies to loans; encouraging regional funds to support textile producers; promoting research and innovation; and expanding access to third country markets.

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[23] The REACH was designed to ensure high level of health protection and environmental safety and, at the same time, effective operation of domestic market, promotion of innovation, and increased competitiveness of this sector.

Today the common EU trade policy in textile and clothing trade is focused on opening non-European markets and stimulating exports from the EU. Special attention should be paid to developing international specialization in certain types of production, taking into account available competitive advantages on the European continent. For instance, the use of the pan-European system of diagonal cumulation of origin of goods would enable a more efficient location of various production stages.

It should be noted that programs for systematic reduction of production capacities have been recently promoted in the EU.

Interest groups (stakeholders) in the EU

EU lobby groups have various positions and include the so-called Euro-federations (consisting of national business associations), Euro-associations (embodying the formula of joint representation of business interests at the stage where the union policy is shaped), *ad hoc coalitions* of large companies, and individual industrially powerful transnational corporations (Table 6).[24] Therefore, in preparation for the FTA negotiations, opportunities for joint lobbyism involving the above associations should be considered, and a system should be developed that minimises possible threats for the Ukrainian side. It should be emphasised that such a system may only be formulated when the Ukrainian government identifies the key sectoral (sub-sectoral) negotiation positions regarding the FTA.

Table 8

EU lobby groups

Type of group	Example	Degree of threat/co-operation opportunities
Euro-federations (consist of national business associations)	European Federation of Pharmaceutical Industry Associations EuroCommerce (represents retailers and distributors) COMITEXTIL (coordination body for national textile federations)	Low Are losing their lobbying potential
Euro-associations (collective representation and lobbying of business interests)	EU Committee of the American Chamber of Commerce in Belgium Association of European Automobile Constructors European Round Table of Industrialists (IRT) European Information Technology Round Table Association for the Monetary Union of	Medium Cooperation is possible in the framework of the Integrated Economic Region

[24] *Shumylo Olga*. Ukraine and the European Neighborhood Policy: Ensuring the Free Movement of Goods and Services, CEPS Working Document № 240, CEPS, March. — Brussels, 2006. — P. 22.

	Europe Union of Industrial and Employers' Confederation of Europe (UNICE)	
Type of group	Example	Degree of threat/co-operation opportunities
Ad hoc coalitions of large companies		High Flexible; limited to a narrow circle of issues Are looking for European partners to make a temporary alliance
Individual large companies	Large industrially powerful transnational corporations: Volkswagen, Fiat, etc.	Medium

Examples of EU agreements with other countries

The EU integration with Central European (CE) countries have taken form of association agreements and caused the flow of direct investment which served as a tool for integration of CE countries into the European manufacturing network. Compare the following: while the share of intra-industry trade[25] with the EU countries in the goods turnover of CE countries was only 10–15% in early 1990s and approximately 60% in early 2000s.[26]

Article 72 «Industrial cooperation» (Box 1) of the relevant agreement between the EU and Poland demonstrates that the agreement originally incorporated the mechanisms developing the market economy and shaping favourable business environment in Poland.

Box 1. *Industrial cooperation in the Association Agreement between Poland and the EU*[27]

Article 72
Industrial cooperation
1. Cooperation shall seek to promote the following in particular:
— industrial cooperation between economic operators in the Community and in Poland, with the particular aim of strengthening the private sector,
— Community participation in Poland's efforts in both public and private sectors to modernize and restructure its industry, which will effect the transition from a centrally planned system to a market economy under conditions which ensure that the environment is protected,
— the establishment of new undertakings in areas offering potential for growth.

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[25] The share of intra-industry trade reflects the degree of a country's integration in the regional production networks.

[26] *Tor-hovelna polityka Yevropeiskoho Soyuzu* [Shnyrkov O. I. *Trade Policy of the European Union*, Kyiv, 2005, p. 95].

[27] Agreement establishing an association between the European Communities and their Member States, on the one hand, and the Republic of Poland, on the other hand.

2. Industrial cooperation initiatives take into account priorities determined by Poland. The initiatives should seek in particular to establish a suitable framework for undertakings, to improve management know-how and to promote transparency as regards markets and conditions for undertakings.

However, when examining specific aspects of integration of Poland and other EU-10 countries, one should remember that they integrated in the Union as candidates for accession and many economic elements of association agreements with Central European and Baltic states are *a priori* not acceptable in the Ukrainian variant. Therefore, it appears to be useful to closely examine the recent free trade area agreements concluded with non-acceding states.

For instance, the association agreement with Chile[28], which is more and more often referred to by European and Ukrainian researchers, already contains provisions that promote industrial cooperation projects (Box 2) and establish forms of infrastructure which could be stimulated by European investment.

Box 2. *Industrial cooperation in the Association Agreement between Chile and the EU*[29]

Article 17
Industrial cooperation

1. Industrial cooperation will support and promote industrial policy measures to develop and consolidate the Parties' efforts and establish a dynamic, integrated and decentralised approach to managing industrial cooperation, so as to create a favourable environment to serve their mutual interests.

2. The central aims will be:

(a) to boost contacts between the Parties' economic operators, with the aim of identifying sectors of mutual interest, especially in the area of industrial cooperation, transfers of technology, trade and investment;

(b) to strengthen and promote dialogue and exchanges of experience between networks of European and Chilean economic operators;

(c) to promote industrial cooperation projects, including projects deriving from the process of privatization and/or opening-up of the Chilean economy; these could cover the establishment of forms of infrastructure stimulated by European investment through industrial cooperation between businesses; and

(d) to strengthen innovation, diversification, modernization, development and product quality in businesses.

A situation when the research factor of progress cannot be efficiently used due to the restrictive effect of international borders becomes more and more typical in the world. The concepts of 'integration' and 'joint projects' have many tangent points. Implementation of joint projects may stimulate integration in cer-

[28] Members of European institutions and experts of domestic and foreign agencies often refer to the texts of agreements with non-candidate countries when discussing the FTA agreement with Ukraine.

[29] Agreement establishing an association between the European Community and its Member States, of the one part, and the Republic of Chile, of the other part.

tain sectors, and comprehensive integration can and is meant to promote joint projects. Therefore, the experience of Chile, whose association agreement with the EU has a whole article describing forms of cooperation between the two sides, is extremely useful for studying and adopting it (Box 3).

Box 3. *Innovation cooperation in the framework of Association Agreement between Chile and the EU*

Article 36

Cooperation on science and technology

1. The aims of cooperation on science and technology, carried out in the mutual interest of both Parties and in compliance with their policies, particularly as regards the rules for use of intellectual property resulting from research, shall be:

(a) policy dialogue and exchanges of scientific and technological information and experience at regional level, particularly in respect of policies and programs;

(b) promotion of lasting relations between the two Parties' scientific communities; and

(c) intensification of activities to promote linkage, innovation and technology transfer between Chilean and European partners.

2. Special emphasis will be put on human potential building as the real long-lasting basis of scientific and technological excellence and the creation of permanent links between both scientific and technological communities, at both national and regional levels.

3. The following forms of cooperation should be encouraged:

(a) joint applied research projects in areas of common interest, with active participation by business undertakings where appropriate;

(b) exchanges of researchers to promote project preparation, high-level training and research;

(c) joint scientific meetings to foster exchanges of information and interaction and to identify areas for joint research;

(d) the promotion of activities linked to scientific and technological forward studies which contribute to the long term development of both Parties; and

(e) the development of links between the public and private sectors.

4. Furthermore, the evaluation of joint work and the dissemination of results will be promoted.

5. Higher-education institutions, research centres and productive sectors, including SMEs, on both sides shall be involved in this cooperation in an appropriate manner.

6. The Parties shall promote their respective entities' participation in their respective scientific and technological programs in pursuit of mutually beneficial scientific excellence and in accordance with their respective provisions governing the participation of legal entities from third countries.

Under Article 76 of this Agreement, all import or export prohibitions or restrictions in trade between the Parties, other than customs duties and taxes, whether made effective through quotas, import or export licenses or other measures, shall be eliminated and no new such measures shall be introduced.

It should be noted that the Agreement with Chile also addresses the issue of simplifying access to their respective markets by increasing the mutual knowledge, understanding and compatibility of their respective systems (Box 4).

Box 4. *Facilitating access to markets under the Association Agreement between Chile and the EU*

Article 87

Specific actions to be pursued under this Agreement

With a view to fulfilling the objective of this section:

1. The Parties shall intensify their bilateral cooperation in the field of standards, technical regulations and conformity assessment with a view to facilitating access to their respective markets, by increasing the mutual knowledge, understanding and compatibility of their respective systems.

2. In their bilateral cooperation the Parties shall aim at identifying which mechanisms or combination of mechanisms are the most appropriate for particular issues or sectors. Such mechanisms include aspects of regulatory co-operation, inter alia convergence and/or equivalence of technical regulations and standards, alignment to international standards, reliance on the supplier's declaration of conformity and use of accreditation to qualify conformity assessment bodies, and mutual recognition agreements.

3. Based on progress made in their bilateral cooperation, the Parties shall agree on what specific arrangements should be concluded with a view to implementing the mechanisms identified.

4. To this end, the Parties shall work towards:

(a) developing common views on good regulatory practices, including, but not limited to:

(i) transparency in the preparation, adoption and application of technical regulations, standards and conformity assessment procedures;

(ii) necessity and proportionality of regulatory measures and related conformity assessment procedures, including the use of suppliers declaration of conformity;

(iii) use of international standards as a basis for technical regulations, except when such international standards would be an ineffective or inappropriate means for the fulfilment of the legitimate objectives pursued;

(iv) enforcement of technical regulations and market surveillance activities;

(v) the necessary technical infrastructure, in terms of metrology, standardization, testing, certification and accreditation, to support technical regulations; and

(vi) mechanisms and methods for reviewing technical regulations and conformity assessment procedures;

(b) reinforcing regulatory co-operation through, for example, exchange of information, experiences and data, and through scientific and technical cooperation with a view to improving the quality and level of their technical regulations and making efficient use of regulatory resources;

(c) compatibility and/or equivalence of their respective technical regulations, standards and conformity assessment procedures;

(d) promoting and encouraging bilateral cooperation between their respective organization, public and/or private, responsible for metrology, standardization, testing, certification and accreditation;

(e) promoting and encouraging full participation in international standard setting bodies, and reinforcing the role of international standards as a basis for technical regulations; and

(f) increasing their bilateral cooperation in the relevant international organizations and fora dealing with the issues covered by this section.

As we can see, even an Agreement with a country that is not a candidate for accession to the EU, includes elements of 'deep integration' at a level beneficial for both integrating countries.

The impact of European agreements on certain sectors of mechanical engineering in Central European countries

Shipbuilding in Central European and Baltic countries

The preliminary analysis of the impact that the access to the EU would have had on five countries –Czech Republic, Estonia, Hungary, Poland and Slovenia – predicted the downfall of the competitiveness of the shipbuilding and ship repairing industries in all these countries as the result of compliance with the *acquis* in environmental protection, growing cost of labour and implementation of the social block of the *acquis* as well as growing production cost due to implementation of the EU labour safety regulations.

However, the implementation of respective association agreements had increased investment in this industry, on the one hand, and operation costs, on the other hand.

Before examining specific aspects of progress of this industry in CE countries in the integration context, let's note that the strategic advantages in shipbuilding and ship repairing industries from the global perspective are determined by the production costs (including labour cost), labour productivity, and level of implemented innovations.

The research has identified the following three key aspects which had radically changed the situation in the CE shipbuilding industry:

✓ Creation of a cooperation network or setting up of an effective supply chain.

✓ Availability of consumers among the EU-15 countries.

✓ Better access to financial resources.

It is quite obvious that an effective logistic and cooperation system may significantly lower the production costs. For instance, before accession to the EU, Polish shipbuilders and ship repairers could count on gradual stabilization of import of component parts at the level of 10—15% while at the end of 1990s the volume of such import was approximately 25 %. Estonian manufacturers satisfied their demand for component parts through domestic suppliers, and the share of imported materials was only 10% in 1999.

In general, the summarised comparison of shipbuilding production cost in Table 7 demonstrates that it this cost is high in the old EU member states, and this situation created comparative advantages for the Central European countries.

Table 9

Shipbuilders' production cost
(in 1997, average world production = 100)[30]

[30] The Shipbuilding and Ship Repair Sectors in the candidate countries: Poland, Estonia, the Czech Republic, Hungary and Slovenia. NOBE Independent Center for Economic Studies, 1998. www.nobe.pl.

Country	Index
China	50
United States	155
Western Europe	140
Japan	150
South Korea	110
Scandinavian countries	142
South Europe	130
Black Sea / Balkan countries	115
South-East Asia	77
United Kingdom	138
Middle East countries	97
East Europe (Poland used as an example)	**115**

The share of sales on the Polish domestic market decreased since 1990. Polish ship owners did not place orders with Polish shipbuilders due to high interest rates on loans of local banks, high VAT rate and duties on import material and equipment. In late 1990s, 95 % of ships were built for export, including 80% for the EU. Interestingly, 80 % of ship repair services were export based, including 60% for the EU and Norway. For instance, Czech shipbuilders received many contracts from German and Dutch naval companies, and Estonian shipbuilders achieved sustainable export to Denmark, Finland, the Netherlands and Norway[31].

In 1990s Polish shipbuilding companies began to extensively use services of local and foreign banks (loans and bank guarantees) to finance their production for export and investment purposes. At the same time, high interest rates, compared to profitability of shipbuilding and ship repair industry, were a typical and common problem for the countries in question.

Having analysed specific aspects of the development of the shipbuilding industry in Central European countries, it appears that the most constructive representation of results can be achieved by the SWOT-analysis.

Therefore, the key development opportunities for all five candidates were secured by a stable macroeconomic environment, free trade with the EU, and high level of competitiveness (primarily the competitiveness of pricing) due to low labour cost. At the same time, a major threat was the growing wages.

The major strong sides included pricing aspects of competitiveness and highly qualified personnel and, in the case of Poland, a comparatively large share of the global market. The weak sides included obsolete production fa-

[31] Ibid, p. 12..

cilities, insufficient R&D expenses, and lack of an effective environmental strategy.

Impact of EU enlargement on the automotive construction sector of new members and acceding candidates

The accession of new ten members to the EU has increased investment in the countries of Central and Eastern Europe and Turkey. After the opening of new vehicle assembly plants, new plants were set up for parts production normally in proximity to storage centres. The statistical Table 8 demonstrates the scale of production growth in this sector.

Table 10

Changes in motor-vehicle production in new EU members and acceding candidates

	1990	2002	Change, %
Czech Republic	216,360	460,200	112.70%
Hungary	9,003	137,900	1 431.71%
Poland	335,494	349,300	4.12%
Romania	101,400	84,400	–16.77%
Turkey	209,050	340,117	62.70%
Together	**871,307**	**1,713,817**	**96.69%**

Source: Trends and drivers of change in the European automotive industry: Mapping report. European Foundation for the Improvement of Living and Working Conditions, 2004

At the same time, the problem of relocating the production (especially labour intensive production of parts and components) outside the EU to the countries with low labour cost and a potentially large domestic market can be observed not only within the EU-10 but also in China, where such manufacturers as Volkswagen, Peugeot-Citroën, BMW and DaimlerChrysler have created joint ventures with local car manufacturers.

Possible forms of cooperation/steps under the deep free trade agreement

Table 11

Steps of Ukraine and the EU under the deep free trade agreement

Sector	Steps by Ukraine	Steps by the EU
Motor-Vehicle Construction	Implement international standards and technical requirements/harmonize the Ukrainian law with the European law.	Enhance cooperation with Ukraine as an area that intensifies its

Sector	Steps by Ukraine	Steps by the EU
	Develop and implement a plan to adapt domestic commodity producers to conditions of external competition. Promote joint research. Create conditions that encourage European institutions and commercial entities to joint participation in international technologically advanced projects (spaceship construction, aircraft construction, shipbuilding, power equipment, biotechnology). Develop a national program for commercial use of research developments with appropriate funding mechanisms and wide-scale promotion campaign.	innovation activity. Facilitate the commercial use of research developments in Ukraine. Provide technical assistance to implement European standards.
Chemical Industry	A program for commercial use of inventions (particularly in power saving sector). Encourage foreign partners to retrofit and develop infrastructure, and set up optimum logistical systems.	Facilitate financial support of retrofitting and development of Ukraine's pipeline infrastructure. Technical assistance in certification of Ukrainian products.
Light Industry	Government stimulation of business in this sector (by facilitating access to financial resources) Developing cooperation with European manufacturers. Taking measures to 'de-shadow' production and sales.	Develop cooperation with Ukrainian companies.

Impact of FTA+ on stakeholders

Instituting an FTA+ between Ukraine and the EU, in terms of its impact on such sectors of industry as mechanical engineering, chemical and light industry, regardless of the short-term risks, will have positive mid-term and long-term implications for the Ukrainian economy.

Ukrainian business entities will gain access to the domestic market if European standards are established and technical regulations are complied with. At the same time, the cost of implementation of EU standards and retrofitting of production should be compensated by the flow of European investment which is going to stimulate restructuring and retrofitting of companies, facilitate new businesses and, as the result, increase revenues to the state budget.

The tendency of relocating production from the EU to countries with lower cost of production factors, as was the case with Central European countries, will help Ukraine to plug into the European production network and enhance Ukraine's participation in international and European division of labour. A more competitive business environment should have its positive impact on Ukrainian business in the context of deep free trade. The flow of quality European products with high consumer characteristics to the Ukrainian market will certainly encourage improvements in the quality of domestic products, from which Ukrainian consumers would benefit by all means.

One of the major problems for business, namely wider access to financial resources, may be partially addressed by reducing bank loan rates through more active operation of foreign banks on the domestic market.

It should be noted that there is a short-term risk of saturation of the domestic market with imported goods that have high consumer characteristics, which may result in a situation where small enterprises will loose their share of the market and close down. This situation can particularly affect light industry with its quite significant share of small companies. This also applies to paint and chemical products with high degree of processing.

The above arguments speak in favour of an asymmetric FTA which ensures optimum transition mechanisms that help to adapt domestic producers to the increased external competition.

An emphasis on government support of sectors in question, where most support measures were cancelled for being inconsistent with international and European standards, may rationalize policy in this area if the FTA+ is introduced.

Although the FTA+ per se and cooperation under joint projects are distinguished, the FTA+ is expected to activate the latter in potentially lucrative and developed sectors in Ukraine, such as aircraft construction, space industry and power saving technology.

At the same time, Ukraine needs to identify priority areas in scientific research cooperation with the EU based on available research potential (for instance, the National Academy of Sciences of Ukraine) and the degree of interest and financial capacity of the European side in specific areas of such cooperation.

It should also be noted that growing prices for the Russian gas have spurred the development of power saving technology in Ukraine on the one hand, and have drawn Europe's attention to security of power supplies from Eurasian countries, particularly Russia on the other hand. Therefore, we believe that a more intensive cooperation may engage the EU in the funding of transport infrastructure and scientific research in the power saving sector.

At this stage of bilateral cooperation, the cost of harmonizing domestic legislation with EU law is certainly high. Moreover, the lack of membership prospects means no European subsidies. Therefore, a selective and flexible adoption of the *acquis* should be the key and fundamental principle of the

proposed FTA+ integration model. It applies to such burdensome and extremely 'expensive' EU rules as the social component of the *acquis* and environmental standards.

Table 12

Overview of the impact of the deep free trade agreement divided by interest groups/stakeholders in the sectors in question

Interest group	Positive impact	Negative impact
Ukrainian business	A more liberal access to the European market Flow of foreign (European) investment Greater loading level of production capacities, retrofitting and restructuring Access to new technology, comprehensive technological retrofitting of industries Possible integration in the European production and supply network (developing production networks) Domestic products will increase the non-price aspects of their competitiveness due to growing external competition pressure Lower bank loan rates due to wider presence of foreign banks on the domestic market, and as the result a wider access to financial resources	The risk of saturation of the domestic market with imported goods High external competition pressure may ruin small enterprises/loss of control over business (especially in light industry where such companies are the majority) Not prepared to comply with European technical regulations in the short term The cost of implementation of EU standards and retrofitting of production facilities Existing production capacities are power intensive and technologically obsolete. As the result, production of this equipment may be substituted by production of parts for foreign manufacturers

Interest group	Positive impact	Negative impact
European business	Production may be relocated to the region with a potentially large domestic market and comparatively low labour cost, which may potentially have a positive impact on the pricing aspect of competitiveness of European products (lower prices) Gaining access to the market by creating a manufacturing network	Insufficient number of workforce familiar with various manufacturing processes (if enterprises are located in the provinces) Expenses related to training of employees
Consumers	Cheaper European products with traditional quality and high consumer characteristics Better quality of domestic products Prices for domestic products may de-	

	crease	
Government	Reasonable policy of government support Possibility of flexible and selective approach to adoption of *acquis* Developing and implementing effective market monitoring of product safety based on market practices Increased opportunities for funding of joint scientific projects, particularly in the area of aircraft construction, space industry, development and implementation of power saving technology Engaging the European side in financing of the infrastructure for uninterrupted supply of energy resources to Europe	Expenses involved in harmonizing laws and making domestic standards compatible with international standards: especially regarding intellectual property rights, social component of *acquis*, and environmental standards
Economy in general	More favourable conditions for investment in the Ukrainian industry Growing direct foreign investment, loading production capacities Creating new jobs and increasing budget revenues Retrofitting the national economy Participation in European y the European division of labour Implementation (although selective) of high environmental standards	Bankruptcy of producers who will not be able to withstand competition with foreign companies

Conclusions

An analytical assessment of such processing sectors as mechanical engineering, chemical and light industry has indicated positive changes in their development primarily due to favourable situation on external markets. However, the dependence on the external demand for raw material should not be used as the foundation for the strategy of economic growth. Major challenges, which the Ukrainian mechanical engineering, chemical and light industry are facing, generally consist in the need of technical and technological transformation, retrofitting, investment, implementation of international and European standards, and fixing of inefficient system of border crossing. The free trade area between Ukraine and the EU is, first, an optimal and logical stage of transition from cooperation to integration, and secondly, a tool for a balanced and justified economic policy. Furthermore, elements of 'deep integration', if included in the FTA agreement, may generate a synergy of classical trade integration and certain elements of manufacturing integration at the stage of formation of a common market.

Deeper free trade with the EU would facilitate industrial manufacturing because it provides for the unification of industrial production standards. Transition to non-mandatory standardization should not cause any serious resistance of producers in these sectors. However, certain changes, like 'de-shadowing' of production and sales in light industry or commercialization of inventions (particularly in the power saving sector) in chemical industry, may stir discontent within certain interest groups. Restructuring of industry may be less painful for the economy if foreign investment is secured for retrofitting and creation of new companies and industries.

It should be noted that the issue of government support may become a problem during negotiations, especially given the position of the interest group that represents mechanical engineering. The groups will apparently demand long transition periods for liberalization of trade should the practice of sectoral assistance be discontinued. Losses may be compensated by foreign investment (investment conditions should be improved) and steps which help Ukrainian enterprises to become part of the European production and supply network; this would encourage the development of intra-industry trade and strengthen the material base for trade integration.

In our opinion, the implementation of the FTA+ will have a positive impact on the acceleration of retrofitting and restructuring of the Ukrainian industry, stimulate staged and balanced implementation of European standards, which, in addition to liberalization of tariff barriers, should open access to the EU market for Ukrainian companies.

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