

“Development of global production networks in a global environment”

AUTHORS

Marina Khmara
Olena Grinenko
Sergii Koroied
Daria Koucherets
Oleksandr Bukhanevych

ARTICLE INFO

Marina Khmara, Olena Grinenko, Sergii Koroied, Daria Koucherets and Oleksandr Bukhanevych (2017). Development of global production networks in a global environment. *Problems and Perspectives in Management*, 15(3), 467-477. doi:[10.21511/ppm.15\(3-2\).2017.14](https://doi.org/10.21511/ppm.15(3-2).2017.14)

DOI

[http://dx.doi.org/10.21511/ppm.15\(3-2\).2017.14](http://dx.doi.org/10.21511/ppm.15(3-2).2017.14)

RELEASED ON

Thursday, 07 December 2017

RECEIVED ON

Wednesday, 24 May 2017

ACCEPTED ON

Tuesday, 05 December 2017

LICENSE



This work is licensed under a [Creative Commons Attribution-NonCommercial 4.0 International License](https://creativecommons.org/licenses/by-nc/4.0/)

JOURNAL

"Problems and Perspectives in Management"

ISSN PRINT

1727-7051

ISSN ONLINE

1810-5467

PUBLISHER

LLC “Consulting Publishing Company “Business Perspectives”

FOUNDER

LLC “Consulting Publishing Company “Business Perspectives”



NUMBER OF REFERENCES

21



NUMBER OF FIGURES

0



NUMBER OF TABLES

0

© The author(s) 2026. This publication is an open access article.



BUSINESS PERSPECTIVES



LLC "CPC "Business Perspectives"
Hryhorii Skovoroda lane, 10, Sumy,
40022, Ukraine

www.businessperspectives.org

Received on: 24th of May, 2017

Accepted on: 5th of December, 2017

© Marina Khmara, Olena Grinenko,
Sergii Koroied, Daria Koucherets,
Oleksandr Bukhanevych, 2017

Marina Khmara, Ph.D. in Economics,
Associate Professor, Associate
Professor of the Department of
International Business, Institute
of International Relations of Taras
Shevchenko National University of
Kyiv, Ukraine.

Olena Grinenko, Doctor of Law,
Senior Researcher, Head of the
Department of European Law and
International Integration, Legislation
Institute of the Verkhovna Rada of
Ukraine, Ukraine.

Sergii Koroied, Doctor of Law,
Associate Professor, Head of the Civil
Law and Process Department, Ivano-
Frankivsk University of Law named
after King Danylo Halytskyi, Ukraine.

Daria Koucherets, Doctor of Law,
Professor of the Law Department,
University of Modern Knowledge,
Ukraine.

Oleksandr Bukhanevych, Doctor of
Law, Honored Lawyer of Ukraine,
Head of the Constitutional,
Administrative and Financial
Department of Khmelnytskyi
University of Management and Law,
Khmelnytskyi, Ukraine.



This is an Open Access article,
distributed under the terms of the
[Creative Commons Attribution-Non-
Commercial 4.0 International license](https://creativecommons.org/licenses/by-nc/4.0/),
which permits re-use, distribution,
and reproduction, provided the
materials aren't used for commercial
purposes and the original work is
properly cited.

Marina Khmara (Ukraine), Olena Grinenko (Ukraine),
Sergii Koroied (Ukraine), Daria Koucherets (Ukraine),
Oleksandr Bukhanevych (Ukraine)

DEVELOPMENT OF GLOBAL PRODUCTION NETWORKS IN A GLOBAL ENVIRONMENT

Abstract

Production systems in the structure of economic systems occupy the most fundamental place and act as both initial and basic subsystem of any economic development. There is a tendency to change the forms of production and the study of these process systems poses a wider aspect of their dynamics analysis. The article tries to prove both theoretically and practically that global production networks are one of the most important factors in the innovative transformation of countries and regions. It is concluded due to global production networks, being the channel for the transfer of global knowledge and technical know-how to regional structures, regions of the former periphery have quickly become developed, innovative regions with a specialization in the sector of highly qualified services, production of high-tech products, and generation of scientific knowledge. For transnational companies global production networks reduce their costs and financial risks by sharing with other companies, as well as global division of labor, an important part of global production.

Keywords

networks, chains, production, global, corporation,
development, competitiveness

JEL Classification

F14, F23

INTRODUCTION

Creating a bigger added value (and expanding a tax assessment base), former local firms within global production networks (GPNs) will be able to contribute more effectively to the economic development of their countries (economic regions) and build a foundation for prosperity and poverty reduction. Some researchers consider global value chains (GVCs), GPNs and global commodity chains (GCCs) as identical concepts, however, such diffuse categories should be somewhat aligned. Many scientific papers devoted to global value chains (GVCs) challenges are focused on establishment of spatial relations by global companies while creating added value from localization of manufacturing and trade and financial transactions primarily nationwide. They consider recipient countries of direct and portfolio investment, technologies, semi-finished imported goods, and offshore capital within the global intra-company interaction within transnational companies (TNCs). If we take into account the global value chains separately in production and trade domain, we should talk about GCCs and GPNs.

1. LITERATURE REVIEW

According to Gereffi (2015), global commodity chains (GCCs) are inter-organizational networks acting as clusters around one particular commodity or product, combining firms, households, research and

educational facilities, public institutions within the global economy. These networks are situational, built socially and integrated locally. Gereffi distinguished two types of global commodity chains: global producer-driven chains (when the companies located at the beginning or in the middle of the chain have the greatest impact and perform the most complex (capital-intensive and high-tech) operations) and global buyer-driven chains (when the companies located at the end of the chain have the greatest impact and act as seller of goods to end customer (consumer)).

This term refers to forms of production activities and the actual commodities (e.g., agricultural sector, heavy industry, mining of minerals) and hardly ever covers Post-Fordist types of activity that characterize a number of other sectors that would define global commodity chains. Therefore researchers proposed to replace the word 'commodity-based' to 'productive' as a social process, which reproduced knowledge, capital and labor in addition to production and distribution of goods.

In addition, the term 'chain', according to researchers, '... describes the linear activities that result in the final manufactured product, while the term should have covered flows of materials, semi-finished goods, design, marketing, financial services [in the real sector], which can be organized vertically, horizontally, diagonally in complex and dynamic configurations'. Thus, the term 'network' was suggested.

Gereffi's understanding of category 'global' as 'international' or 'transnational' was also criticized. The researchers saw that this concept echoed, in fact, the country-centred discourse, since Gereffi revealed the problem of cross-border activities of transnational actors in different directions instead of focusing on penetration of global processes not tied to specific locations into the processes that were linked to it and expanding the dialectics of global-local relations (Gereffi, Humphrey, & Sturgeon, 2015, p. 102).

Thus, the authorship of 'global production networks' (GPNs) belongs to Henderson and Dicken. The researchers noted that '... global production networks act as conceptual framework conditions that cover global, regional and local economic and social di-

mensions of processes that permeate various forms of economic globalization'. Global production networks, ensuring the processes of manufacturing, distribution and consumption of produced goods and services in the real sector, '... provide a degree of relative autonomy in relation to domestic companies, national governments and other economic actors (such as trade unions), whose activities could potentially have mixed effects on social and economic outcome of network functioning in the territories of their localization' (Henderson, 2005).

We remind that global production networks (GPNs) have less functional scope than GVCs and relate to creation of added value namely in manufacturing and trading domain, and therefore, unlike GVCs, do not include an added value, for example, from speculative financial activities. Modern global production networks are established at the sub-national level, i.e., at the level of economic regions around the world integrated between them. In fact, it is the formation of international and regional industrial and commercial clusters, which are able to be explained in the framework of the modified concepts of Porter and Krugman.

Martin and Sunlay (2006) believe that the network characteristics in the global space are created and intensified due to geographic proximity and, as a result, economic activity of global companies and other economic actors often has local domain. Companies are trying to reduce the distance between their relations, even when access to remote in geographical terms resources or benefits is less expensive in other ways.

Companies oriented to efficiency gravitate to networks and structures on business processes management localized in competitive areas. Localization is crucial in creating new knowledge and it links knowledge with innovation activities generated from production of differentiated capital and high technology goods in specific areas of production location (Malmberg & Maskell, 2007, p. 27). Gravity connections in such networks are centripetal and centrifugal. Recent studies show that a trade collapse is synchronized by global value chains in particular. The latter are a quick channel for transmission of real and financial shocks (Gereffi, 1999). Demand shifts on finished products may immediately affect the flows of semi-

finished products, especially when contracts are those of short-term suppliers. There may be problems on the loan market that cascade across the global value chain. For example, when there is a refusal to lend to importers in one country, access to loans for sellers in other countries may be limited as well, so this affects their ability to import (Globalization: Implications and Opportunities).

The paper of Coe, Hess, Dicken, Henderson (2004) shows how global production networks impact developing regions and economic transformation of regional management structures (government agencies, local authorities, labor organizations (trade unions), business associations (chambers of commerce and industrial associations)).

According to the professor of the Massachusetts Institute of Technology Paul Krugman, technology is acting as the most mobile factor of production, which in the establishment of a supranational network of flexible industrial clusters determines the formation of the international division of labor independent of conventional administrative boundaries.

In such a manner, the findings presented by Paul Krugman in the paper "The Spatial Economy: Cities, Regions, and International Trade" (cited in Feenstra, 2001) suggest that even provided there are no fixed geographical parameters in economic models, the global economic system is being organized within the areas of industrial specialization.

2. RESEARCH OBJECTIVE AND SUBJECT

According to the World Investment Report (2014), approximately 60% of world trade with its current volume summing up to more than 20 billion USD, accounts for trade in semi-finished goods and services used at different stages of manufacturing process of goods and services for final use. Fragmentation of manufacturing processes and spread of their productions in different countries have resulted in emergence of 'limitless' production systems. These may be consecutive chains or complex networks, they may have either global or regional scope and they are usually called global production systems (GPSs).

According to the data of the international consulting company Orbis, there are more than 37 million economic actors in the world: both individuals and firms located in 194 countries of the world. The results of global networks analysis reveal the 'architecture' of global property.

Global network of TNCs encompasses three types of economic actors: 77,456 shareholders, 43,060 TNCs (more than half of TNCs of the world) and 479,992 companies that take part in the network. General network consists of 600,508 hubs and 10,006,987 links. According to the research of Glattfelder, less than 1% of companies control up to 40% of the whole network. In fact, this main core of global network with major part of its participants being global financial companies is a center of decision making that shapes contemporary trends at the global financial market, as well as the policy of global information asymmetry.

GPSs create considerable element of double counting in trade, since semi-finished products are counted several times in global export, though they should be accounted for only once as added value.

Nowadays approximately 28% of gross exports account for added value that is firstly imported by countries for its inclusion into goods and services which are exported again afterwards. Approximately 5 billion USD out of USD 19 billion USD of global gross exports (according to 2014 data) are accounted for twice (World Investment Report, 2014).

Trade models in GPSs determine distribution of actual economic benefits from trade between individual countries. GPSs are prevalent in certain areas where it is easier to separate different productions such as electronic, automotive or sewing industries. However, GPSs have started to include productions in all sectors, including service sector, more often.

Though the service share in global gross exports equals only about 20%, almost half (46%) of exports added value is being created in the service area, since services are required to produce majority of exported final goods.

Majority of developing countries has begun more actively to take part in GPSs. Share of developing countries in global trade within GPSs has increased

from 20% in 1990 to 30% in 2000 and to more than 40% according to results of 2014. However, many poor developing countries still compete to get access to GPSs in different areas except for exports of natural resources. Regional links between production systems usually have been more significant than international, particularly in North America, Europe and Eastern and South-Eastern Asia. Regional production systems are relatively less developed in countries with transition economy, Latin America and Africa (World Investment Report, 2014).

GPSs usually are coordinated by TNCs, while import-export trade in semi-finished products and finished commodities is conducted within their networks of branches, contractors and independent suppliers. GPSs coordinated by TNCs make approximately 80% of global trade. Trade models in GPSs are in many respects based upon investment decisions of TNCs. Countries with great share of FDI in comparison with the scale of their economies, as a general rule, take part in GPSs more actively and create relatively big domestic export added value (World Investment Report, 2014).

TNCs coordinate GPSs via complex interaction networks between suppliers and different management regimes: from direct property on foreign branches to contracting relations and commercial agreements. These management regimes and GPSs hierarchical structures thereof significantly impact the distribution of economic benefits, received from trade in GPSs, and the related long-term consequences for development.

TNCs' decisions on where to invest and whom to keep partnership with is based on factors of GPSs location that depends on segment, task or activity of GPSs. There are less location factors for GPSs segments usually than for vertically integrated areas and they differ from them. That is there are fewer factors that identify production location by assembly of electronics, than investments into electronic industry as a whole.

For majority of GPSs segments, there are relatively few crucial location factors that serve as preliminary conditions for access of countries to GPSs. GPSs create added value and jobs in a great number of places without concentrating them only where the most difficult tasks may be performed.

In such a way, they may speed up the process of GDP growth in developing countries and to provide possibilities to increase the level of income and result into larger economic convergence of countries. At the global level, this is a major GPSs input into development. At the national level, domestic added value created within GPSs can be very significant in comparison with the scope of local economies.

In the developing countries a share of production within GPSs accounts for almost 30% of GDP in these countries in average against 18% in developed countries. There is also a positive correlation between participation in GPSs and GDP per capita dynamics.

In the countries where participation in GPSs increases the most, GDP per capita dynamics is approximately by 2 percentage points bigger than average. Besides, participation in GPSs, as a rule, results into creation of jobs in developing countries and into bigger increase of employment even if participation in GPSs depends on possibility to use imports during production for exports (World Investment Report, 2014).

However, even in case when export is provided by TNCs, contribution of local firms to added value creation within GPSs may be very significant. In addition to that, foreign branches reinvest in average almost the same significant revenue volume which they repatriate.

As for employment increase, putting pressure on prices by global buyers often results in absence of employment securities related to GPSs and lack of appropriate work conditions, with security and occupational safety named as specific concerns.

Employment within GPSs also may be unstable due to the fact that increasing demand fluctuations impact the related production system links and productions of TNCs within GPSs may relocate relatively easy. At the same time, GPSs can be a dissemination mechanism of international advanced experience in social and economic areas, for example, as a result of application of Socially Responsible Company (SRC) rules, though adherence to rules lower than the first circle of production system still is a problem.

At the companies' level, capabilities of local firms concerning production increase and transfer to production with bigger added value within GPSs depend on GPS character in which they work, management system and hierarchy inside the system, their capabilities to draw money and depend on business and institutional conditions in economy. At the national level, progress within GPSs foresees not only intensification of participation in GPSs, but also creation of bigger domestic added value. At the same time, it stipulates for gradual expansion of participation in GPSs with the use of more modern technologies, with transfer from resources exports (raw material exports) to goods exports (technological and industrial exports) and services of higher complexity.

Both partnerships on the basis of non-equity international production organization mode (NEMs) and foreign branches may provide possibilities to integrate to global production and sales links for host countries.

One of the main advantages of NEMs is that they are flexible mechanisms of interaction with local companies that provide TNCs with immanent incentives for investments for support of their partner's viability within knowledge, technologies and skills dissemination (World Investment Report, 2014). On the other hand, by creating local branch through FDI, TNCs signal their long-term goodwill to the matter of a host country development. FDI attraction is also an optimum alternative for countries that have limited production potential (World Investment Report, 2014).

It should be mentioned that nowadays global production networks development has two ways for evolution. First, an increase of international competitiveness has companies specialising only in those areas that may provide them the biggest competitive advantages. Concentrating resources on strategic operations (management, R&D, control), companies abandon functions less important to their understanding, transferring them to the competence of other companies that are in cooperation relations with the former (this phenomenon is known as 'outsourcing'). As a result, a share of parent companies decreases in a cost of produced goods. Outsourcing is especially well traced in the automotive industry. For example, average share

of big German consolidated groups in the cost of produced cars does not exceed 20% in general or 10% by individual models ("Porsche Cayenne") (Globalization: Implications and Opportunities). Great part of functions is transferred to the competence of regional partners.

The second way is partial transfer of production or service functions to other regions of the world (offshoring). Using dimensional differences (natural, economic, social, and humanitarian) of the world regions, international companies achieve the highest efficiency of their activity that is reflected in the increase of income and decrease of costs. Besides, the main reason to internationalise productions is not only factor expenses, but access to regional markets and technological know-how (knowledge) is no less important.

Geography of offshore enterprises includes a big number of countries. These countries are both countries of South, South-Eastern Asia and countries of Eastern Europe, CIS and Latin America. By number of acting offshore companies India and China are in the lead. They are followed by the countries of CIS, South-Eastern Asia (particularly Philippines, Malaysia, and Thailand).

In the countries of Eastern Europe, offshore services are concentrated in Hungary, Poland, Romania, Ukraine, Russia, in Latin America – in Costa-Rica, Brazil, Uruguay. Major part of offshore countries specializes in relatively simple IT-services and providing business services. Back-office activity of western TNCs, organization of call centers for client service (call-centers) etc. are primarily related to them. The highest number of co-workers is employed in these services.

Global offshoring gives a chance for developing countries to overcome technological lagging from developed countries and modernize domestic economy. According to studies, processes of complication of carried out works, increase of added value of produced goods and services manifest in the countries where TNCs production and service centers are based.

The source of competitive advantages for TNCs is optimal configuration of the global production

system. Creation of productions abroad is implemented by TNCs via foreign direct investments with its scope being dramatically increased during these years.

Foreign subsidiary companies and branches actively use technologies of the parent company to develop their business. The basis of TNCs' production transfer abroad is built on impartial processes related to partitioning, fragmentation of production and technological processes when different production stages can be separated and transferred to places where expenses for their implementation will be lower.

The other advantage for TNC upon partitioning production processes is a possibility to concentrate on the most difficult and expensive parts of it (for example, on the production services) and to achieve decrease of expenses on getting specific knowledge, experience and know-how due to product specialization increase.

Incentives for TNCs active foreign production activity are different. For example, Japanese car TNCs Toyota, Nissan and Honda built their plants in the USA in order to be closer to sales markets and to avoid limitations imposed by Japanese government on car export from Japan to the USA.

Contemporary TNCs' production systems are very complex and capital-intensive ones. Thus, for example, Intel's investments into modernization of three existing semi-conducting plants in Oregon, Arizona and New Mexico in the USA for production of latest Westmere microprocessor based on nanotechnology will amount over 7 billion USD in two years' time. The cost of a new standard plant for microchip production varies between 1,0 billion USD and 3,0 billion USD. The cost of an up-to-date car plant amounts from 300 million USD to 1 billion USD.

Improvement of production system is an important factor in TNC's competitiveness increase. Constant modernization and substitution of outdated equipment in production units, employees training on more effective implementation of operations, production processes automation essentially increase effectiveness and competitiveness of firms.

To this end, there is a well-known experience of Japanese production companies, many of which apply the production and stock management system 'just-in-time' and invest into new technologies on a regular basis.

Industrial TNCs in their global production activity target production organization experience of the most successful companies. Production system of Toyota has been recognized as the most competitive in the world (and not only in the automotive industry).

This system, known as 'lean production', envisages: production just-in-time; minimal volume of stocks and effective use of resources; geographical concentration of assembling productions and component manufacture; quick set up of equipment; production processes and goods rationalization, labor standardization; employee training on implementation of different operations; broad introduction of subcontracting relations; selective use of machines; continual process of improvements; clear organization of group activity.

Primarily targeting existence of cheap labor force and resources in regions, majority of companies is interested in skills increase of employees on enterprises. Together with the increase of employees' skills manufactured products quality is increased and quality of labor processes is optimized. In due course the level of implemented activities in offshore companies becomes more sophisticated. It is due to the fact that increasing agglomeration expenses have companies convert to production of goods with bigger added value. Only in this case company's goods will be competitive.

Orientation on the global market means production reduction within the home country as a result of too high expenses. Local nature of resources allocation in the world within the global nature of distribution of the final goods results into placement of a part of production in regions where the required resources are. Particular components, incomplete production or semi-finished products are transported to regions with cheap labor force. Big storehouses are concentrated close to the place of sale of the final goods.

Thus, production system is territorially spread and requires not only interconnected functioning of its particular links, but also creation of corresponding supporting infrastructure, including development of communication means. Each element of the latter such as transport, communication, information network, telecommunications, energy supply, have been recently developing in a very intensive and contradictory manner.

A number of challenges related to further functioning, development, expansion and modernization of global production infrastructure objects arises. A detailed analysis of global economy infrastructure areas allows to show long-term tendencies of their development in globalization conditions and to estimate adequately the current situation.

The next global problem in the transportation development is a specific nature of economic, political and legal relations of each country aimed at national markets protection. Mentioned factors suppress expansion of transport network at continents and in particular regions.

New type of global economic relations and structural changes in the transport system caused by science and technological advances has created number of problems in the infrastructure development, namely the need to expand carrying capacity of transport corridor in the Eurasian region, change of a dominant role of this or that type of transport in current conditions, design of single transport policy with the aim to establish fair competition on the transport services market.

And the final global problem in the development of transportation industry is the lack of comprehensive approach towards development of global transport infrastructure. There are two trends in the given area: towards integration and disintegration, sectoral approach dominates in the policy of international transport organizations (Sokolenko, 2013, p. 103), which excludes comprehensive approach. Establishment of informational society at the brink of two millennia has significantly strengthened the role of contacts and information and communicative technologies as an element of international production infrastructure. Establishment of transnational communication

network allows to receive information on problems and prospects of the global economic development. Accurate and available information of all types creates conditions for effective decision making and implementation of an adequate foreign economic policy and entrepreneurial activity.

Basic tendencies of development of global energy supply on the brink of millennia are globalization of energy markets, creation of single energy space of global level, interconnection and convergence of regional and national energy economies.

Functioning of the mentioned subsystem of the international production infrastructure has been characterized by that the consumption of raw energy resources dominates in favor of oil and gas in the last decade, while a share of coal has been decreasing. But national oil and gas stocks not always respond to demands of particular countries for energy resources.

Globalization process of energy markets has caused adequate growth of international trade in energy resources that in their turn more and more stray away from sales markets. This generates the need in infrastructural objects such as pipeline transport. Besides, globalization has brought the international competitiveness on a new level and created a problem in interrelations between competitors in energy business that caused massive takeover and merging of firms in this perspective infrastructure area.

One more problem that has arisen nowadays in fuel and energy complex is an imbalance between producers and consumers of energy resources that is getting more complicated because economic problems frequently transfer into political ones. If before political measures were an instrument to promote energy supply, now energy production and particularly possibility to transport may be used as tool for political pressure (World Investment Report, 2014).

The third global problem in the functioning of the world energy economy is its immediate infrastructural provision. In specific regions of the world (the USA), increase of internal energy resources supply is limited by bottlenecks in the electricity transmission networks and gas pipeline system, in

other regions (Ukraine), there is an inefficient use of existing infrastructural objects of energy economy (oil pipeline Odesa-Brody).

Thus, disclosure of the number of problems that have arisen in the process of formation, functioning and modernization of production infrastructure objects in terms of globalization will allow developing specific directions to increase effectiveness of functioning of supranational reproduction process.

Apart from described problems, the global production networks may also negatively impact economic security of countries. The most apparent manifestation of interaction between global economic security and global production infrastructure is energy economy of the world.

Recent years has been revealing objective trends towards decrease of global and national energy resources stocks. As it is generally known, in order to eliminate any danger in fuel and energy complex a country's needs have to be secure in terms of energy. Thus, self sufficiency in oil amounts to 210.7% in Mexico, 96.9% in Brazil, 93.2% in Great Britain. As for gas stocks the leader in 'blue fuel' self sufficiency is China with 101.0%; Great Britain takes the second place at 88.1% and Mexico takes the third place at 80.1%, the European Union provides itself with oil at 15.5% and gas at 40.7%.

In other words, major part of countries and regions is oriented mainly on imported energy recourses of so called primary need and has real chances to depend on world market conditions of energy.

The need in global energy security is a result of provision of countries of the world with energy resources and depends mainly on balance of exporters and importers interests, mechanism and means of energy resources transportation, and also volume of demand on world energy resources.

Competition for access to natural resources, mainly fuel and energy, constantly advances, while the problem of global energy security transfers from economic domain to political one, and that even more strengthens the need in effective functioning of the mentioned element of global production infrastructure.

At the same time, environment conditions worsen, oil and gas extraction gets more globalized, decreases self-sufficiency of developed countries of the world in energy resources with their prices escalation. Thereby, importers have to adjust their energy policy 'to provide their energy security they develop measures for support of 'energy aggression victims' and for counteracting cartels that supply energy products'.

Dialectics of the global production infrastructure development as an object of global economic security is fairly controversial and envisages implementation of a system of their multifaceted interconnections and interdependences. Herewith, each element of production infrastructure from micro- to meta-level depending on its development influences elimination or preservation of national, international and global economic security.

The need to modernize within GPSs motivates countries to strengthen partnerships with leading firms engaged in industrial development. At the same time, GPSs requires the regulation system to ensure that common efforts in economic, social and ecological modernization contribute to sustainable development.

To ensure participation of local firms in GPSs, one needs to create and support favorable environment for investments and trade and also to create the infrastructure required for participation in GPSs.

Moreover, effective strategy of employees' skills advancement has a key meaning for incorporation into GPSs and mastering of higher limits and also providing assistance to IBE when implementing customer's requirements on compliance with certain SRC norms. It also may facilitate any adjustment processes and assist employees in job placement.

Directive bodies also should consider possibilities to strengthen positions of domestic producers with regard to their foreign partners by GPSs in order to help them to achieve fair division of rents and risks and improve access to production with bigger added value within GPSs.

Typical feature of contemporary international dimension is its organizational and structural nature. International relations, clash of national interests,

settlement of existing contradictions always trigger a system of international organizations and international legal regimes of global, regional or sub-regional levels.

A network of international organizations that operated in one or another moment of history that influenced the trends at the international scene somewhat was lowering the limit of political indeterminacy by stabilization of parties' expectations and thus was increasing the level of national and international security.

Historical increase of possibilities of international organizations to influence security is closely related to worldwide integration processes and globalization.

Reliable ecological, social and management base and policy are extremely important to receive maximum benefits of activity within GPSs for sustainable development and for risk minimization. Host countries should guarantee compliance with basic international labor rules by partners in GPSs.

It is important to create and guarantee compliance with security, occupational safety and environment protection rules at GPSs productions, and also to strengthen potential to keep up with these rules. Buyers of GPS production and their countries of origin may make an important input into securing more safe production at the account of work with suppliers with the aim to expand their possibilities to comply with rules of host countries and international standards and refusal to work with suppliers that neglect these rules.

Suppliers face increasing need to adapt to SRC policy to preserve their role in GPSs. Export processing zones is an important link in GPSs and provides directive bodies with possibilities to solve issues related to SRC at the controlled level.

Directive bodies could consider possibility to adopt more efficient SRC policy, to create auxiliary services and infrastructure in export processing zones (for example, technical assistance in certification and reporting, support in issues of security and occupational safety, sewage recuperation or use of alternative energy resources), remaking them into leading centers of responsible business activity and catalyzers to support SRC.

A government or administration of those zones could make decisions to provide such benefits in addition to several existing benefits that are provided to firms in export processing zones or instead of them. These benefits include inter alia: allocation of costs, practice coordination, decrease of quantity of inspections at sites, etc. International organizations could provide assistance through creation of control indices, contribution to best practice exchange and programs on potential improvement.

To minimize risks related to GPSs one needs to settle a number of other problems including corporate management issues. They include a transfer price establishment when GPSs play a double role of increasing scale of manipulation with transfer prices and with difficulties of combating this phenomenon and as a result, there is a decrease of budget incomes for development goals.

In addition, to support industrial development process countries have to assist development of stable resilient supply chains capable of resisting shocks them and quickly rebuilding afterwards.

Since investment activity and trade are inseparably connected with GPSs, it is extremely important to provide coordination between investment and trade policies.

At the institutional level, active trade and investment links in GPSs require more close cooperation between national bodies for encouragement of trade and investments and also targeting particular segments of GPSs taking into account dynamic local benefits of host countries.

A number of objective criteria based on country's participation in GPSs and its situation may help to identify the most favorable institutional model for trade and investment encouragement.

Synergism should also be sought through integration of international investment and trade agreements into one field. Regional trade and investment agreements have particularly important meaning from the point of view of production systems, since regional efforts concerning liberalization form regional production systems and envisage distribution of added value.

CONCLUSION

Consequently, we can conclude that global production networks are one of the important factors in the innovative transformation of countries and regions. They are the channel for the transfer of global knowledge and technical know-how to regional structures. Due to this part of the regions of the former periphery was able to quickly become a new, innovative region of the world, with a specialization in the sector of highly qualified services, production of high-tech products, and generation of scientific knowledge. The global division of labor in the production network is a strategic factor in enhancing the company's competitiveness. By distributing production and service functions on a planetary scale, transnational companies reduce their own costs and financial risks by sharing them with other companies.

REFERENCES

- Baldwin, R. E. (2013). The Great Trade Collapse: What Caused it and What Does it Mean? In R. Baldwin (Ed.), *The Great Trade Collapse: Causes, Consequences and Prospects* (pp. 1-14). UK: Centre for Economic Policy Research. Retrieved from https://www.researchgate.net/profile/Sonia_Araujo3/publication/277045408_The_Great_Synchronization_Tracking_the_trade_collapse_with_high-frequency_data/links/556eb81f08aeab777226aaf3/The-Great-Synchronization-Tracking-the-trade-collapse-with-high-frequency-data.pdf
- Coe, N. M., Hess, M., Yeung, H. W.-C., Dicken, P., & Henderson, J. (2004). 'Globalizing' regional development: a global production networks perspective. *Transactions of the Institute of British Geographers*, 29, 468-484. <https://doi.org/10.1111/j.0020-2754.2004.00142.x>
- Escaith, H., Lindenberg, N., & Sébastien, M. (2010). International Supply Chains and Trade Elasticities in Times of Crisis World Trade Organization, Geneva. Retrieved from https://www.wto.org/english/res_e/reser_e/ersd201008_e.pdf
- Feenstra, R. C., Hanson, G. H. (2001). *Global Production Sharing and Rising Inequality: a Survey on Trade and Wages* (NBER WP 8372). Retrieved from <http://www.nber.org/papers/w8372.pdf>
- Flissak, K. A. (2006). Міжнародна кооперація як ефективна форма сучасного економічного співробітництва [Mizhnarodna kooperatsiia yak efektyvna forma suchasnoho ekonomichnoho spivrobitnytstva]. *Zhurnal yevropeiskoi ekonomiky*, 5(2), 138-142. Retrieved from <http://jeej.tneu.edu.ua/index.php/ukjee/article/view/959/945>
- Gereffi, G. (1994). The Organisation of Buyer-driven Global Commodity Chains: How US Retailers Shape Overseas Production Networks. In *Commodity Chains and Global Development* (pp. 95-122). Westport: Praeger.
- Gereffi, G. (1999). A Commodity Chains Framework for Analyzing Global Industries. *Institute of Development Studies*, 8(12), 1-9. Retrieved from <http://www.ids.ac.uk/ids/global/Conf/pdfs/gereffi.pdf>
- Gereffi, G., Humphrey, J., Sturgeon, T. (2006). The Governance of Global Value Chains. *Review of International Political Economy*, 12(1), 78-104. <http://dx.doi.org/10.1080/09692290500049805>
- Henderson, J. (2005). *Global Production Networks, Competition, Regulation and Poverty Reduction: Policy Implications* (Working paper No. 115). Manchester, Centre for Regulation and Competition. Retrieved from <http://ageconsearch.umn.edu/bitstream/30692/1/cr050115.pdf>
- Henderson, J., Dicken, P., Hess, M., Coe, N., Wai-Chung Yeung, H. (2002). Global Production Networks and the Analysis of Economic Development. *Review of International Political Economy*, 9(3), 436-464. <http://dx.doi.org/10.1080/09692290210150842>
- Hladiy, I., Zvarych, I. (2011). Міжнародні виробничі мережі в Європі [Mizhnarodni vyrobnychi merezhi v Yevropi]. Ternopil: Economichna dumka.
- Hubert, E., Gonguet, F. (2016). Supply Chains and Financial Shocks: Real Transmission Channels in Globalized Production Networks (VoxEU.org). Retrieved from <http://voxeu.org/article/supply-chains-and-financial-shocks>
- Malmberg, A., Maskell, P. (1997). Towards an explanation of regional specialization and industry agglomeration. *European Planning Studies*, 5(1), 25-41. <http://dx.doi.org/10.1080/09654319708720382>
- Martin, R., Sunley, P. (2006). Path Dependence and Regional Economic Evolution. *Journal of Economic Geography*, 6(4), 395-437. <https://doi.org/10.1093/jeg/lbl012>
- Sokolenko, S. I. (2013). Производственные системы глобализации: Сети. Альянсы. Партнерства. Кластеры: Украинский контекст [Proizvodstvennyye sistemy globalizatsii: Seti. Aliansy. Partnerstva. Klasteri. Ukrainskiy kontekst]. Kyiv: Logos.
- Sturgeon, T. J. (2000). How Do We Define Value Chains and

- Production Networks? Paper prepared for the *Bellagio Value Chains Workshop, Bellagio, September 25 – October 1*. Retrieved from <http://www.ids.ac.uk/ids/global/pdfs/vcdefine.pdf>
17. Sturgeon, T. J., Lester, R. K. (2014). The New Global Supply-Base: New Challenges for Local Suppliers in East Asia. In Shahid Yusuf, Anjum Altaf, & Kaoru Nabeshima (Eds.), *Global Production Networking and Technological Change in East Asia*. Washington, DC: World Bank and Oxford University Press.
 18. Whiting, G. (Ed.). (2016). Globalization: Implications and Opportunities. *Business Strategy*. Retrieved from <http://www.dpi.qld.gov.au/extra/pdf/business/globalisation.pdf>
 19. Williamson, O. (1981). The Modern Corporation: Origins, Evolution, Attributes. *Journal of Economic Literature*, 19(4), 1537-1568.
 20. World Investments Report 2014: Investing in the SDGs: an Action Plan (UNCTAD, Switzerland, 2014), 264. Retrieved from http://unctad.org/en/PublicationsLibrary/wir2014_en.pdf
 21. Zenger, T. R., Hesterly, W. S. (1997). The Disaggregation of Corporations: Selective Intervention, High Powered Incentives, and Molecular Units. *Organization Science*, 8(3), 209-222. <https://doi.org/10.1287/orsc.8.3.209>