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## **INNOVATIVE VECTOR OF ENTERPRISES DEVELOPMENT IN THE WESTERN REGION OF UKRAINE**

### **INTRODUCTION**

In market economy innovative vector becomes immanent quality of national economy development. At a macroeconomic level we can observe the process of transition from mobilization (resources) type of economic development to innovative one. Thenew innovative model of development is formed in consequence of transition to domination in economy of such elements as: informational and communicational technologies, external and internal transfer of innovations, market of innovations and high technologies.

### **BASIC MATERIAL**

The innovative vector of industrial enterprises development is the component of innovative development of economic system in general and important aspect of productive relations simulation and development of knowledge-intensive productions that lies in renovation of fixed assets and improvement of organization of their use both at the stages of forming and scientific-technical maintenance of production. Although this way of Ukrainian development is declared in many strategic and program documents both of state and regional levels (Strategy of innovative development of Ukraine for 2010–2020 in terms of globalization challenges», Regional programs and draft programs of scientific-technical and innovative development, for example, Volyn, Ivano-Frankivsk and Lviv regions) but we can not observe sensible positive changes in this direction. Thus, notwithstanding the understanding at all management levels of the importance of the innovative development vector, the efficient mechanisms of state or regional maintenance of innovations is still absent and the practice of enterprises activity testifies to the range of problems in this sphere and low innovative activity that does not contribute to the growth of competitive ability of regions.

The fact that industrial production during many years can't come close to technological level of developed countries of the world and successfully compete with foreign manufacturers is the evidence of abovementioned. Low technical and technological level of production stipulated by considerable exhaustion of available facilities is the basic obstacle to competitive ability increase of national manufacturers. Thus, in average in Ukraine, the rate of fixed assets depreciation constitutes 60%. More than half of the fixed assets of industrial enterprises of Western region are depreciated (depreciation coefficient is in average 53,8%). Fixed assets at industrial enterprises of Zakarpattia and Lviv regions are in the worst condition, their depreciation rate is 74,3% and 70,1% respectively. The best situation is in Chernivtsi region (37,7%) [Osnovni zasoby L'vivshchyny, 2012, p. 76]. High level of facilities depreciation leads to the increase of expenditures for production and correspondingly to increase of the price with its low consumer qualities. This in its turn makes foreign analogues of production more favourable for our consumers with higher quality and lower price. With high and increasing competition and limitedness of resources for the enterprises of Western region the implementation of innovations of all available directions and scales is the basic mean of efficiency increase of their activity and competitive ability. The innovations appear to be material basis for an increase of efficiency of manufacturing, quality and competitive ability of production and decrease of expenditures for its manufacturing that in its turn contributes to increase of profits of its realization. It is worth mentioning that in order to increase competitive ability of national manufacturers the process of innovations expansion has to pass from centralized to local, when certain regions due to local innovation processes will become the "points of innovative growth" of national economy [Stolyarov, (http)].

However, nowadays the irresponsiveness to novations is still the basic unsolved problem of the majority of industrial enterprises of the region, notwithstanding the fact that they have all necessary preconditions for innovations introduction, in particular: high concentration of scientific, educational and production-technical potential, favourable conditions for development of innovative business and transition of innovative activity to basic long-term source of industrial competitive ability increase.

Along with stimulating preconditions for activation of innovative activity low innovative possibilities of industrial enterprises are stipulated by the absence of demand for innovative decisions by national economy; low innovative activity of enterprises; partial destruction of national innovative sphere due to liquidation of sectoral science; ageing of scientific staff and leaving of younger researchers abroad; low amount of competitive innovative

projects; unpreparedness of many innovative decisions to exploitation and hanging it over to the client on a turnkey basis, etc.

The following are the basic obstacles for introduction of new technologies stipulated by financial-economic (for example, high credit rates and inability to obtain long-term credits), organizational and legal preconditions (incomplete tax basis, customs system of tariffs and payments): inadequate legal basis, economic instability, excessive tax pressure and lack of funds for investment developments financing. Basic still pending problem of innovative sphere current condition lies in the independent development of authorities, education, science and production. Moreover, the entrepreneurship sector in the majority of cases is not interested in innovations, notwithstanding the decrease of its competitive ability.

Innovative development of both Ukrainian entrepreneurship in general and of Western region in particular is limited on one hand by the fact that entrepreneurs are poorly motivated for active innovative activity and large-scale introduction of progressive technologies in production processes. On the other hand, national proposition of technological innovations for industrial introduction is too low. The latter is stipulated by the fact that former system of sectoral and applied science is almost totally ruined and new infrastructure of creation, capitalization and introduction of innovations is now at the stage of forming. That is why nowadays the demand of entrepreneurs for innovations is satisfied mainly by import that is unavailable in the majority of cases [Fedulova, ([http](#))].

High expenditures for introduction of novations, high economic risk, long term of innovations return, lack of information on new technologies and market outlets, absence of possibilities for cooperation with other enterprises and scientific establishments, lack of qualified staff, absence of demand for high technological production at inner market due to domination of branches oriented at production of low technological production, irresponsiveness of enterprises to innovations, poor level of intellectual property rights protection, etc are among other important factors that hamper innovations. Moreover, essential tax and tariff incentives for industrial enterprises on investment in R & D and system of expenses reimbursement for innovations introduction are not created.

Low demand of industrial enterprises for innovations is directly linked with high level of industrial branches monopolization. Excessive protection barriers are the key problem that decreases motivation of entrepreneurs to introduce innovations. Hypertrophied role of the state at industrial markets is the problem as well. In this situation administrative resource and not technological transitions becomes the most requested industrial innovation able to maximally quickly and efficiently influence the results of enterprise activity [Antonyuk, 2008, p. 56].

The state of innovative development of both Ukraine and Western region is defined as not corresponding to the modern level of innovative processes in industrially developed countries of the world. Innovative and scientific-technical developments, including priority ones, play small role in solution of the problem of technological renewal of production. Low absolute weight of enterprises that conduct innovative activity in Ukraine testifies to this. During 2005–2012 their share ranged in the limits of 13,3%, when in USA, Japan, Germany and France, for example, innovatively active enterprises constitute from 70% to 82% of general amount of industrial enterprises.

The low level of innovative activity is observed at industrial enterprises of Western region. Although the intensity of innovative activity in the region is a little bit higher than in the average in Ukraine, except for 2005 and 2011, but still is not enough for improvement of situation in direction of fundamental renewal of depreciated and unsuitable for use fixed assets. During the analyzed period of time the share of innovatively active enterprises in the region ranges from 9,8% to 15,5%. By the types of economic activity the enterprises that produce food, beverages, tobacco, mineral production, engineering, chemical and petrochemical enterprises accepted the majority of innovations with the share of enterprises with innovations amounting to 25–39% [Naukova, 2012, p. 172].

Development of innovative activity in different areas of Western region is very unbalanced. Ivano-Frankivsk region was among the leaders of innovative activity in Ukraine during 2007–2010. Thus, for example, in 2007 the share of innovatively active enterprises in the region amounted to 30,6% of total amount of industrial enterprises that function in the region, when in Ukraine in general this rate was only 14,2%. Although in the following years innovative activity of industrial enterprises in the region gradually decreases but still the region remains one of the leaders in Ukraine by the level of innovative activity and in 2010 took third place after Harkiv region and Kyiv. In previous years it consistently took second place. In 2011 situation changes and the region loses its leading positions and places seventh in Ukraine and second among areas of Western region by the level of innovative activity after Ternopil region, although the share of innovatively active enterprises remains at considerably high level. During 2005–2011 the level of innovative activity of Chernivtsi region is also higher than average in Ukraine. Much worse situation is in the rest 4 areas of the Western region, where the level of innovative activity is lower than average in Ukraine. The lowest level of innovative activity was during 2010–2011 at the enterprises of Zakarpattia region [Naukova, 2012, p. 172, 173] (table 1).

Key importance for the development of production and its ability to meet the needs of the market and realize strategic priorities has the active introduction to industrial enterprises of the new types of innovative production and

knowledge-intensive technique and technologies. Only intensive creation and exploitation of new technologies enables economy of time for development and introduction into of new products. This, in its turn, enables quicker reaction to the needs of consumers. Innovative technologies stipulate also saving of workforce, increase of technological flexibility of production, safety and productivity of labour, decrease of material-, resources- and energy saving and improvement of ecologic situation in the region. It is also worth mentioning that industrial enterprises of the region prefer purchasing of new equipment to development of own technologies as far as the change of equipment in comparison with development and introduction of the results of R & D is less risky and guarantees high return of invested funds at once. Nowadays the majority of inventors' ideas embodied in industrial pattern can't be implemented as far as the region lacks necessary innovative infrastructure for commercialization of new innovative technologies and their expansion to the market. Insufficient informational maintenance is also one of the problems (innovative technologies must emerge on the basis of needs and not new knowledge) [Shovkalyuk, (http)].

**Table 1. Innovative activity of industrial enterprises of the Western region in 2005–2011, %**

Regions	2005	2006	2007	2008	2009	2010	2011
Volyn	9.5	7.8	19.8	11.3	9.2	11.6	11.6
Zakarpattia	10.5	10.1	8.8	12.2	13.6	10.8	9.4
Ivano-Frankivsk	13.7	12.9	30.6	27.9	21.2	17.9	21.7
Lviv	6.2	8.4	15.8	12.1	13	13.4	13.2
Rivne	4.0	3.1	8.5	11.8	11.8	10.4	12.1
Ternopil	11.2	8.3	13.2	16.1	18.0	16.7	22.1
Chernivtsi	13.7	13.6	17.4	16.9	16.7	14.2	18.6
In average in the Western region	9.8	9.2	16.3	15.5	14.8	14	15.5

Source: Naukova ta innovatsiyna diyal'nist' v Ukrayini u 2011 rotsi, 2012, p. 172, 173

Exploitation of innovative types of production is the basic type of innovative activity of industrial enterprises of the Western region. Ivano-Frankivsk region remains the leader in the intensity of their introduction during 2009–2011. Lviv region takes second place by this parameter. In 2011 these two regions took 62% of general volume of assimilated innovative production by industrial enterprises of Western region. However, notwithstanding some recovery in the region of the activity on introduction of innovative types of production, their share in Ukraine during last three years diminishes almost twice, in particular from 25.6% in 2009 to 14.2% in 2011, when in 2003 western region took third part of introduced new types of innovative production in Ukraine [Naukova, 2012, p. 220].

237 new technological processes against 156 in 2010 were introduced at industrial enterprises of Western region in 2011. Ternopil region that takes almost half of introduced technological processes in the region is the leader by the amount of introduced technological processes. In 2011 amount of introduced technological processes in the region increased more than in 5,5 times, namely from 21 to 116 units [Naukova, 2012, p. 216].

Financial possibilities of enterprises play important role in conducting innovative activity. In general in Ukraine own funds of enterprises are the basic source of financing investment activity. The same tendency is observed at industrial enterprises of the Western region except for Ivano-Frankivsk region y 2009–2010, where the funds of foreign investors were the basic source of financing. These funds in 2010 financed 98% of all innovations and in 2009–87% [Naukova, 2012, p. 196, 197].

In 2011 innovative activity in Western region was again financed mainly by own funds of enterprises, except for Chernivtsi region, where the third part of financial resources were the costs of foreign investors. State and local budgets still don't allocate (or allocate very small part) funds to support innovative processes in the region. Due to bank system instability and high credit rates credit resources don't play important role in maintenance of these processes. Relatively considerable part of credit resources is used for financing of innovative activity only by the enterprises of Ivano-Frankivsk region. The structure of the sources of innovative activity financing at industrial enterprises of Western region is presented in the table 2.

**Table 2. Structure of investment activity financing sources in Western region in 2011, %**

Regions	Own funds	State budget	Local budgets	Home investment	Foreign investment	Credits
Volyn	93.5	–	–	–	–	6.5
Zakarpattya	99.3	0.7	–	–	–	–
Ivano-Frankivsk	83.7	–	0.3	–	3.2	12.8
Lviv	90.1	0.5	–	3.3	5.9	0.2
Rivne	90.4	9.6	–	–	–	–
Ternopil	98.5	1.1	–	–	–	0.4
Chernivtsi	78.5	–	0.6	–	20.6	0.3

Source: Naukova ta innovatsiyna diyal'nist' v Ukraini u 2011 rotsi, 2012, p. 199

In the Western region and in Ukraine, the general purchase of machines and equipment remains the basic direction of innovative expenditures of industrial enterprises This is stipulated by the fact that economic situation in state does not promote long-term investment into the results of scientific research, therefore the most urgent return of invested funds is necessary.

In 2011 the most funds are spent at purchase of machines by industrial enterprises of Chernivtsi region – 94,6%. Share of expenditures for conducting research and developments still remains low that is stipulated in majority of cases by the lack of own laboratory-research basis. Along with this the positive fact is that industrial (plant) sector of science starts own research activity after long-term recession and depression.

The smallest amount of funds in the western region was spent by the enterprises at purchase of new technologies. This direction includes purchase of property rights for invention, useful models, industrial standards and licenses for use of mentioned objects, non-patent licenses, know-how, trade marks and other engineering and consulting services. The low level of this innovative activity direction activation is stipulated to a great extent by its insufficient legal maintenance.

Realization of innovative production in the market is one of the indicators of conducting innovative activity. Taking into consideration quick paces of realized innovative production amounts in Western region during 2005–2009 its share in total amount of realized innovative production in Ukraine increases from 4,1% to 9,1%. However, already in 2010, taking into account decrease of its amounts, share of the region in Ukraine falls down to 7,0%. In 2011 the share of realized innovative production of industrial enterprises of Western region in Ukraine remains at the level of year 2009 [Naukova, 2012, p. 231].

It is worth mentioning that significant part of innovative production goes for export. Zakarpattia region is the absolute leader by the share of exported innovative production. Thus, enterprises of the region exported in 2011 94% of total amount of innovative production. The share of exported innovative production in Ternopil (65,3%) and Volyn (40,1%) regions is relatively high. Industrial enterprises of Lviv region exported the smallest amount of innovative production (18,1%) [Naukova 2012, p. 239].

Increase of industrial technological development is characterized by the activity on purchase of new technologies in Ukraine and abroad. In Ukraine during 2005–2011 amounts of purchased new technologies increased from 237 units to 672. The highest point of this process activation was fixed in 2007 (1141 units), against, for example, 237 in 2005 and 382 – in 2006.

At industrial enterprises of Western region activation of the purchase of new technologies in Ukraine is observed in 2006–2008 and 2010 years. Instead in 2011 in comparison with previous year their amount decreased significantly, namely from 201 to 169 units. Enterprises of Ternopil region are the leaders in Western region by the amount of purchased technologies taking 41,3% in 2010 and 60,9% in 2011 of their total amount. New technologies are purchased by industrial enterprises of Western region abroad as well but in 2011 their amount

slightly decreased, namely from 57 to 55 units. During 2009–2010 Ivano-Frankivsk region took first place among the regions of Ukraine by the amount of purchased new technologies abroad. However, in 2011 it moved to second place after Kyiv. Taking into consideration the fact that in 2011 activation of industrial enterprise activity in Western region on purchase of new technologies decreased, its share in Ukraine by this parameter decreased as well from 40,1% to 27,5% [Naukova, 2012, p. 245].

The largest borrowings of foreign technologies were performed by those industrial branches that traditionally have well developed production and scientific basis, namely enterprises of chemical and petrochemical industry, metallurgic and engineering enterprises. Great advantage of leading firms from innovative activity is stipulated by the fact that they under a slogan of innovative technologies export actually transfer not very efficient and outdated technologies.

#### CONCLUSIONS

In general we should mention that low technological level of available production base, poor governmental financing of innovative developments, absence of own funds for innovative activity and therefore low paces and quality of industrial production development are the basic unsolved problems of Western region industry nowadays. In these conditions orientation of industry at innovative vector of development is not the goal in itself but the mean to increase competitive ability of production and expansion of both inner and foreign markets of production distribution and therefore social and economic development of the region in particular.

The following issues require urgent solution for the purposes of improving the situation within an innovative sphere: improvement of legal maintenance of innovative activity; financial stimulation of innovative processes; improvement and expansion of innovative infrastructure; protection of intellectual property rights in innovative sphere; strengthening of mutual relation between science and production; appropriate informational maintenance in direction of demand and supply balance for innovative developments, etc. Thus, main efforts of both state and regional authorities should be directed at full-scale stimulation of innovative activity on the basis of improvement of financial and legal mechanisms of its regulation through conducting of efficient innovative policy on-site. Special attention should be paid to development (or improvement of existing) of efficient regional strategies and programs of innovative development and elimination of institutional obstacles for their realization.



#### LITERATURE

- Antonyuk L.L., Poruchytel' A.M., Savchuk V.S., 2008, *Innovatsiyyi: teoriya, mekhanizm rozrobky ta komertsializatsiyyi*: [monohrafiya], KNEU, Kyiv.
- Fedulova L.I., *Tendentsiyyi ta perspektyvy rozvytku promyslovosti Ukrainy*, [http://www.nbu.gov.ua/portal/soc\\_gum/eprom/2008\\_43/st\\_43\\_08.pdf](http://www.nbu.gov.ua/portal/soc_gum/eprom/2008_43/st_43_08.pdf)
- Naukova ta innovatsiyna diyal'nist' v Ukraini u 2011 rotsi*, 2012, Statystychnyy zbirnyk, DSS Ukrainy, Kyiv.
- Osnovni zasoby L'vivshchyny*, 2011, Statystychnyy zbirnyk, L'viv: HUS u L'viv. obl., L'viv.
- Shovkalyuk V.S., *Komertsializatsiyya naukovykh rozrobok: problemy ta mozhlyvosti*, <http://eep.org.ua/files/2010>
- Stolyarov B., *Ynnovatsyy v promyshlennosti: model' ne podoshla*, [http://www.ukrrudprom.ua/digest/Innovatsii\\_v\\_promishlennosti\\_Model\\_ne\\_podoshla](http://www.ukrrudprom.ua/digest/Innovatsii_v_promishlennosti_Model_ne_podoshla)