

## ІННОВАЦІЙНА АКТИВНІСТЬ ПРОМИСЛОВИХ ПІДПРИЄМСТВ ЛЬВІВЩИНИ

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Проаналізовано інноваційну активність промислових підприємств Львівщини та виявлено, що основні чинники, які гальмують ведення бізнесу у сфері інноваційної діяльності, є обмежений обсяг і відсутність фінансування інноваційної діяльності з Державного бюджету, брак економічних стимулів щодо залучення інвестиційних ресурсів в інноваційні процеси, невизначеність інституційних умов для розвитку інноваційної інфраструктури (технопарків, технополісів, центрів трансферу технологій та ін.). Визначено, що конкурентоспроможність Львівського регіону залежить від здатності впроваджувати інновації, модернізувати виробничі й технологічні процеси, пристосовуючись до змінних умов навколишнього середовища.

**Ключові слова:** інноваційний розвиток, регіональні особливості, інноваційна активність промислових підприємств, інноваційні витрати, інноваційна продукція.

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## INNOVATION ACTIVITY OF ENTERPRISES IN LVIV REGION ENTERPRISES IN LVIV REGION

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The article analyzes the innovative activity of industrial enterprises of Lviv and found that the main factors hampering business in the field of innovation, there is a limited amount, and in some places, and the lack of innovation funding from the state budget, the lack of economic incentives for attracting investment resources in innovation processes, the uncertainty of the institutional environment for the development of innovation infrastructure (technology parks, techno, technology transfer centers, etc.). Determined that the competitiveness of Lviv region depends on the ability to innovate, modernize production processes and to adapt to changing environmental conditions.

**Key words:** innovative development, regional features, innovative activity of industrial enterprises, innovative costs, innovative products.

**Problem determination** Situation in recent years in the economy of Ukraine is determined by inefficiency of conducted economic reforms, imperfect tax system, the negative impact of state regulation on the activities of businesses and events in the East. However, fundamental factors of economic growth are resources and innovation. But as the problem of resource support exacerbated in recent decades, the current market environment requires activation of innovation. However, the proportion of enterprises in Ukraine that implemented innovations in 2014 was only 20.7 % (Ukrstat.gov.ua, 2015). Innovative measures were carried out by 129 industrial enterprises in Lviv, representing 16.4 % of all companies in the region. By this number Lviv region took 11 place among other regions of Ukraine (in 2013 – 14) (Lv.ukrstat, 2015)

Thus, the current market environment requires a natural activation of innovation as the most productive way to improve the country's competitiveness and its further development.

**Analysis of recent studies and publications** Economic processes in innovative development that take place in Ukraine attracted the attention of many local scientists and economists, namely O. F. Andronov (2007), A. S. Halchynskyi (1997), I. V. Zhytnetskyi (2008), M. T. Pashuto (2006), S. V. Korsunskyi (2006), O. E. Kuzmin (2003), Kh. A. Snihur (2011), N. V. Tchaikovska (2011) and others. In their writings different aspects of innovation activity in Ukraine as well as international experience innovation in production are examined.

**Unresolved problems** Despite existing developments that are aimed at ensuring the innovative development of industry in Ukraine, regional differences innovation industry and factors that hinder innovation processes in the region require in-depth study.

**Aim of the study** To conduct analysis of innovative development of industrial enterprises in Lviv region. To identify the factors that influence the innovative situation that has arisen in recent years in the region's economy.

**Presenting of main material** The innovative activity in the industry of Ukraine involved 1609 companies in 2014, or 16.1 % of examined. Among higher than average regions in Ukraine, the share of innovation active enterprises was in Kherson, Zaporizhzhya, Ivano-Frankivsk, Kharkiv, Mykolaiv, Sumy, Kirovograd, Odessa, Lviv regions and in Kyiv. (Ukrstat.gov.ua, 2015)

Let us consider the situation on the innovative development of enterprises in Lviv region. Analysis of innovative activity of industrial enterprises in Lviv region (Table 1) indicates that 129 industrial enterprises carried out the innovative measures in 2014 (in 2013 – 116), namely 16.4 % of companies in the region. Among innovation active enterprises 49 – introduced innovative products, 42 – innovative processes, 12 used marketing innovations, 7 – organizational innovations. 132 innovative products were developed last year in the region, 15 of them – new types of vehicles and 60 new technological processes were introduced. 14 new technologies were purchased to streamline production processes.

Table 1

**Main indicators of industrial innovative activity in Lviv region\***

| Main indicators of innovative activity   | Years |       |       |       |       |       |       |
|--|-------|-------|-------|-------|-------|-------|-------|
|  | 2008  | 2009  | 2010  | 2011  | 2012  | 2013  | 2014  |
| Number of innovation active enterprises, units                                   | 101   | 106   | 102   | 100   | 101   | 116   | 129   |
| Number of innovation active enterprises to the total industrial enterprises in % | 12,1  | 13    | 13,4  | 13,2  | 13,4  | 16,6  | 16,4  |
| Amount of innovative products, mn hrn  | 627,1 | 690,8 | 383,6 | 447,4 | 658,1 | 849,5 | 731,9 |
| Amount of innovative products to the total industrial production in %            | 3,1   | 3,5   | 1,6   | 1,5   | 2,1   | 3     | 2,1   |
| Amount of innovative expenditures, mn hrn  | 296,7 | 211,1 | 139,3 | 162,7 | 280,6 | 257,1 | 219,8 |
| New implemented processes, units   | 54    | 56    | 63    | 39    | 46    | 47    | 60    |
| New developed products, units  | 138   | 152   | 117   | 119   | 115   | 111   | 132   |
| New developed types of equipment of new products, units                          | 22    | 37    | 31    | 15    | 21    | 16    | 15    |

\* Main department of Statistics in the Lviv region <http://lv.ukrstat.gov.ua>

Amount of innovative products for 2014 was 731.9 mn hrn representing 2.1 % of the total volume of industrial production, compared to 2013 – 849.5 mn hrn (3 %). The majority of sales of innovative products was new only to the company (70.9 % of its total). The new to the market products were sold for 213.3 mn hrn in 2014. (Table 1). Also there is a decline in innovation expenditures in the industry of Lviv from 257.1 mn in 2013 to 219.8 mn in 2014.

Thus, once innovative activity key indicators of industrial enterprises in Lviv region are analyzed, we conclude that in general during the last three years there has been an unstable situation regarding the volume of sales of innovative products, moreover the amount of innovation expenditures tends to decrease, which generally affects the the level of innovative development of enterprises Lviv region.

219.8 mn was spent in 2014 on the implementation of innovations in the industry, which is less compared to the previous 2013 – 257 mn (Table 2). The main source of funding of the costs of innovation are own funds of enterprises (83.4 %). So 183,2 mn hrn was allocated in 2014 which is 30.3 mn less than in 2013 (213.7 mn), so there is a tendency to reduce funding.

Table 2

**Sources of financing of innovation enterprises in Lviv region\***

| Sources of financing (th hrn)           | Years    |          |          |          |          |          |          |
|---|----------|----------|----------|----------|----------|----------|----------|
|   | 2008     | 2009     | 2010     | 2011     | 2012     | 2013     | 2014     |
| Total:                                  | 296662.2 | 211070.7 | 139335.4 | 162676.8 | 280614.4 | 257053.9 | 219754.3 |
| State budget                            | 7155.9   | 4025.5   | 766.0    | 831.5    | 830.0    | –        | –        |
| Local budgets                           | 376.0    | 344.5    | 121.0    | –        | 701.0    | 6113.8   | 160.0    |
| Own funds enterprises and organizations | 253819.0 | 196764.5 | 92677.6  | 146669.8 | 261419.4 | 213668.2 | 183234.0 |
| funds of domestic investors             | 3007.5   | 2132.2   | –        | 5319.7   | –        | –        | 2504,7   |
| Funds of foreign investors              | 2.4      | 260.3    | 353.0    | 9659.8   | –        | –        | –        |
| Bank and other loans                    | 32301.4  | 7543.7   | 45417.8  | 196.0    | 17664.0  | 37228.9  | 27399.6  |

\* Main department of Statistics in the Lviv region <http://lv.ukrstat.gov.ua>

Fundings from local budgets significantly reduced as it was – 6,113.8 th in 2013 and 160 th in 2014. Financing of innovative activity at the expense of domestic and foreign investors in 2012–2013 was absent, funds of domestic investors amounted to 2,504.7 th in 2014. Financial support of the state in 2012 was – 830 th hrn, and in years 2013–2014 was absent. Bank and other loans decreased by almost 1.3 times from 37.2 mn in 2013 to 27.4 mn in 2014, namely 9,829.3 th (Table 2).

Analysis of the financing sources of innovative activity in Lviv region exposed the negative trends towards the state of funds invested by the state and investors in the development of innovations, the lack of investment by foreign investors and the state budget in the past three years was discovered which makes it not possible to develop in this direction.

16847.8 th hrn was spent for research and development by enterprises of Lviv in 2014, which is more than in previous year. In recent years the cost of acquiring new technologies significantly reduced, if in 2008 they amounted to 61562.4 th hrn, in 2013 – 578.7 th hrn, in 2014. – 219.2 th hrn. The dynamics of other costs related to the innovative activity of enterprises in Lviv region is unstable, so in 2013 expenses amounted to 8261.4 th hrn and in 2014 – 52811.7 th hrn. Funds were not allocated for preparation for production innovation as well as in previous years (Table 3).

Table 3

**Amount of spendings on innovative activity in Lviv region\***

| Sources of financing (th hrn)  | Years    |          |          |          |          |          |          |
|--|----------|----------|----------|----------|----------|----------|----------|
|  | 2008     | 2009     | 2010     | 2011     | 2012     | 2013     | 2014     |
| Total:   | 296662.2 | 211070.7 | 139335.4 | 162676.8 | 280614.4 | 257053.9 | 219754,5 |
| Researches and developments  | 12493.0  | 10506.4  | 7734.5   | 7869.3   | 10452.5  | 15719.4  | 16847.8  |
| Purchase of new technologies   | 61562.4  | 18107.7  | 17657.0  | 221.8    | 268.1    | 578.7    | 219.2    |
| Preperation of production to innovations                                       | –        | –        | –        | –        | –        | –        | –        |
| Purchase of machinery and equipment related to the introduction of innovations | 221170.6 | 182052.3 | 113473.3 | 148192.8 | 259954.9 | 232494.4 | 149875.6 |
| Other spendings  | 1436.2   | 404.3    | 470.6    | 6392.9   | 9938.9   | 8261.4   | 52811.7  |

\* Main department of Statistics in the Lviv region <http://lv.ukrstat.gov.ua>

So, the analysis of expenditure trends for innovative activity in Lviv region enterprises indicates that over the past six years the most significant were the costs for purchasing machinery and equipment related to the introduction of innovation and researches. However, funds are not allocated to prepare for innovative production, as well as during the previous years, which inhibits innovation processes in the region.

**Conclusions and prospects for further researches** Thus, the development of Lviv region depends on the ability to innovate and modernize production processes adapting to the changing environmental conditions. However, during the analysis of innovative activity of industrial enterprises of Lviv it was found that innovative measures carried out only 16.4 % of the total industrial area, and the amount of sales of innovative products are only 2.1 % of total industrial production. It was revealed that financial support for innovation at the expense of foreign investors and the state in 2014 was absent; the main source of financing of innovation are own funds of enterprises, that decreased in recent years; funding from local budgets is insufficient. In the region, as well as in the whole country, there is no venture funding, that results in the reduction of innovation efficiency to become a long-term trend.

We agree (Feg.org.ua, 2014) that the main factors hindering business in the region, including innovation, are policy instability, tax policy and tax rates.

At present, limited scope and even the lack of innovation funding from the state budget, the lack of economic incentives to attract investment resources in innovation processes, the uncertainty of the institutional environment for the development of innovation infrastructure cause deterioration of innovative state regions, and encourage to farm on the terms of independence and self-financing. Future research will study and analyse reserves of innovative development of industrial enterprises in Lviv region.

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