

ЕКОНОМІКА ТА УПРАВЛІННЯ

UDC 330.34:336.02:338.1

V. V. Bilotserkivets, Dr. Sc. (Econ.), Prof.,
O. O. Zavhorodnia, Dr. Sc. (Econ.), Assoc. Prof.

National metallurgical academy of Ukraine, Dnipro, Ukraine,
e-mail: crummess@gmail.com; elenzavg@gmail.com

INNOVATIVE CHALLENGES AND POST-CRISIS PROSPECTS OF UKRAINIAN MINING AND METALLURGICAL INDUSTRY

В. В. Білоцерківець, д-р екон. наук, проф.,
О. О. Завгородня, д-р екон. наук, доц.

Національна металургійна академія України, м. Дніпро,
Україна, e-mail: crummess@gmail.com; elenzavg@gmail.com

ІННОВАЦІЙНІ ВИКЛИКИ ТА ПОСТКРИЗОВІ ПЕРСПЕКТИВИ ГІРНИЧО-МЕТАЛУРГІЙНОЇ ПРОМИСЛОВОСТІ УКРАЇНИ

Purpose. The subject of the study is to reveal fundamental problems faced by Ukrainian mining and metallurgical complex in current conditions, to determine perspectives of its post-crisis recovery and basic directions of state support to its innovation development.

Methodology. The results are obtained with the following methods: scientific abstraction for determining the basic problems of innovative activity of the national mining and metallurgical complex, aggregation and structural analysis for determining the budget imperatives of state investment expansion; correlation and statistical analysis, economic and mathematical modeling for studies of directions and forms of budget stimulation of innovative activity.

Findings. The key role of mining and metallurgical complex in maintenance of the economic growth in Ukraine and export support of its trade balance is revealed. The main problems and prospects of state regulation of its innovative development in the post-crisis period are characterized. The macroeconomic principles, mechanisms and forms of effective budget support of investment and innovation activities of mining and metallurgical industry are defined. The main directions of replenishment of the Ukrainian consolidated budget and forming the financial base of the state investment expansion by involving the additional non-tax revenues are concretized.

Originality. The scientific novelty involves improving the model of macroeconomic mechanism of state budget expansion and development of proposals that are directed on growth of private capital investment and increase in their innovative-oriented part.

Practical value. There are developed principles of state innovation and investment support of the mining and metallurgical industry in the post-crisis conditions; the complexes of concrete measures of budget stimulation of innovation activity of domestic enterprises are proposed.

Keywords: *innovation, mining and metallurgical complex, economic crisis, state investment expansion, state budget*

Introduction. One of the most important consequences of globalization is the formation of such a phenomenon of seizure and redistribution of economic power as the global competition. The rivalry of economic subjects for the best realization of their own economic interests in a new global economic environment acquires the complex character, embracing not only all present subsystems of the world economy but also an effort for their future contours and respective leading place in this future.

The expected success and sphere of economic influence of country are directly determined by its current and perspective competitiveness whose raising at the be-

ginning of XXI century is already laid not so much by the classical comparative advantages, as by the complex system of interrelated determinants, the core of which is availability of integrative kernels of self-development of national economy and corresponding holistic reproduction circuits – clusters of technologically interlinking and supporting industries that organically combine all components of the product life cycle, allow reaching maximum effect of mastering the large segments of the global market consistently and become carriers of economic growth.

Multiple cores with different levels of efficiency and competitiveness could be inherent into the national economy. For example, in Ukraine there are important components of reproductive circuits with conventional names:

“Space”, “Airplane”, “Turbine”, “Tank”, “Vessel” [1]. However, the basis of their technological chain is the domestic mining and metallurgical complex (MMC). Pre-conditions of export expansion and import substitution economic growth are laid exactly in the MMC, giving, thus, the possibility of implementing alternative scenarios of development and variants of integration into the global economic space. We are talking about the formation of both the price and the qualitative potential of the high competitiveness of the national commodity production in the regional and world markets. The special role of the MMC in the public reproduction and in the trade-export relationships makes it necessary to give it an unquestionable right to enter the list of the top priorities of the state industrial, innovation and investment policies.

Analysis of the recent research and publications. From the theoretical point of view, the comprehensive consideration of the problem of providing investment and innovation development of the MMC must be carried out at three levels: the micro-level of individual firms (enterprises) as a direct implementer of concrete innovation and investment projects (Pivnyak G. G., Shashenko O. M., Parshina O. A., Usatenko O. V. [2]); the meso-level of the industry in the context of processes of self-organization and self-development); the state mac-

ro-level where general legal and tactical preconditions flowing the innovative processes are pawnd and a targeting policy is implemented meaning concentration of material, labor and financial resources on priority areas of socio-economic development and on objects (industries, enterprises), improvement the efficiency of functioning of which contributes to competitiveness of the national economy in a whole (Pylypenko Yu. I., Fedulova L. I. [3–4]). However, the synergistic combination of these research studies in domestic science has not been observed yet. So the search answers to issue of providing of effective investment expansion into the MMC of Ukraine that is grounded on state financial activism remains an extremely topical problem.

Presentation of the main reserach. At first sight, the situation looks quite optimistic for the investments into the mining and metallurgical industry. The mining and metallurgical complex (2015) whose share in the structure of industrial production is 26.8 %, and which occupies a prominent place concerning the contribution into the volume of industrial production sold (the energy sector which is in second place, accounts for 23.3 %, while food production (third place) is 22.4 %), accounts for 36.3 % of capital investments in the industry. Herewith this situation has been observed for quite a long period (Table 1).

Table 1

Output of basic industrial products and capital investment by type of industry activity, 2010–2015 [6]

The basic types of industrial products	Output as share (%) of total industry output						The share (%) of total capital investment					
	2010	2011	2012	2013	2014	2015	2010	2011	2012	2013	2014	2015
Mining and quarrying; manufacture of basic metals and fabricated metal products, except machinery and equipment	29.1	29.5	26.8	27.2	27.4	26.8	39.7	40.5	34.4	33.3	36.9	36.3
Manufacture of food, beverages and tobacco products	18.0	16.6	18.0	19.2	21.2	22.4	15.3	15.3	14.5	15.3	15.6	15.5
Manufacture of wood products, paper, printing	2.6	2.4	2.5	2.7	3.1	3.3	2.5	4.6	2.5	2.5	2.3	4.6
Manufacture of coke and refined petroleum products	7.2	6.0	4.6	3.7	3.3	3.4	2.5	2.0	1.4	0.7	0.6	0.7
Manufacture of chemicals and chemical products	3.1	4.0	4.1	3.7	3.5	3.4	4.4	3.5	3.8	2.7	2.5	1.9
Manufacture of rubber and plastics products, and other non-metallic mineral products	4.4	4.2	4.3	4.4	4.5	4.0	6.9	5.4	4.1	4.3	4.6	4.4
Manufacture of pharmaceuticals, medicinal chemical and botanical products	0.7	0.7	0.8	0.9	1.0	1.2	1.0	1.0	0.9	1.1	1.6	1.9
Machine-building	9.3	10.1	10.3	8.6	7.1	6.5	7.5	7.2	7.4	6.6	6.35	7.2
Other manufacturing, and repair and installation of machinery and equipment	2.2	2.1	2.1	2.2	2.1	2.0	1.3	1.4	1.2	0.9	1.1	1.4
Electricity, gas, steam and air-conditioning supply	20.8	22.2	24.4	25.2	24.6	23.3	16.8	17.1	27.7	30.0	26.5	24.4
Water supply, sewerage, waste management and remediation	1.8	1.5	1.4	1.5	1.3	1.2	1.3	1.3	1.8	2.0	1.0	1.9

Table 2

Innovative activity indicators of Ukrainian industry, total and by performing types of economic activity, 2010–2014 [6–7]

Year	Industry of Ukraine	Mining and quarrying	Manufacture of basic metals and fabricated metal products, except machinery and equipment
R&D-expenditures as share (%) of realized product value			
2010	1.3	0.73	0.19
2011	1.1	0.69	0.16
2012	0.84	0.45	0.25
2013	0.72	0.49	0.53
2014*	0.54	0.24	0.20
Investment into new machines, equipment and tools as share (%) of capital investment			
2010	8.2	1.96	4.2
2011	7.3	1.42	4.4
2012	12.5	2.56	2.8
2013	5.7	2.82	6.8
2014*	5.9	0.99	2.4
The number of new implemented technological processes in industrial enterprises			
2010	2043	19	82
2011	2510	45	136
2012	2188	35	153
2013	1576	37	221
2014*	1743	19	320
The number of items of implemented innovative products by industrial enterprises			
2010	2408	14	172
2011	3238	5	224
2012	3403	0	223
2013	3138	4	352
2014*	3661	2	354
The sales of innovative products as share (%) of realized product value			
2010	3.8	0.3	3.7
2011	3.8	0.2	1.7
2012	3.3	0.1	1.7
2013	3.3	0.02	2.6
2014*	2.5	0.01	6.2
Realization of innovative products outside Ukraine, % of total realized innovation products value			
2010	40.7	15.0	51.9
2011	29.8	30.5	24.0
2012	36.9	31.9	45.3
2013	44.8	29.8	71.8
2014*	29.2	66.6	97.7

* Last available data. Excluding the temporarily occupied territories of the Autonomous Republic of Crimea, the city of Sevastopol and part of the anti-terrorist operation zone

MMC has always occupied dominant lead position in the domestic industrial production. However, if during 2004–2008 its share varied in the range of 29.9–31.3 %, in the following years its share was reducing gradually. Such dynamics is not only a result of shocks of aggregate demand that are external for the national economy (the decisive role of which in the implementation of the downward trend in the post-crisis period is beyond any doubt), but also is a consequence of certain problems concerning financing of fixed assets investment. Downward dynamics of capital investments resulted in the reduced share of the mining and metallurgical complex in industrial production (from 31.3 % in 2008 to 26.8 % in 2012). And the gradual increase in the share of capital investment in the mining and metallurgical industry in the value of industrial products for 2012–2015 from 34.4 to 36.3 % reflected the improvement of the respective positions of the mining and metallurgical segment in the domestic industrial production in the following years – to 27.14 % in 2014 and 30.2 % in January–July 2016 [5].

At the same time the special attention deserves clear insufficiency of innovative component of investment processes in the national MMC (Table 2). If in 2005 only 9.66 % of mining and metals companies were engaged in innovative activities, in 10 years their number has increased only up to 14.01 %. Moreover, the corresponding figures in the industry on the whole accounted for 11.87 and 16.07 % [7].

Despite the fact that over the past five years the average growth rate of the number of enterprises of the MMC that were engaged in innovative activities has reached 6.95 %, while the average in the industry is 4.3 % [7], the level of innovation of mining and metallurgical production remains insufficient (Fig. 1). The negative consequences and “companions” of innovation and investment hunger are well known, they are: acceleration of moral and physical aging of fixed assets, decreasing effectiveness of the use of economic resources, the deformation of the economic agents’ behavior, in particular, the loss of their skills, tastes and propensity to innovative investment, etc.

The state has the powerful tools of influence, especially, monetary and budget ones to solve the problem of recovery of investment processes at the macro level, especially, in the mining and metallurgical complex (MMC). Depending on the specific economic situation in the World the degree of complementarity and substitution can be different. Considering the importance of monetary regulation, it should be recognized that its impact on the investment process in Ukraine is still limited by underdeveloped financial markets (especially, the secondary market of securities) which is primarily known for non-investment orientation of the banking system and its excessive political exhaustion in combating inflation and devaluation of the currency. Obviously, under these circumstances, the main investment burden is placed on the state fiscal policy and budgetary resources that are transformed in about one-third of Ukrainian GDP (Fig. 2).

The internal logic of the reproduction process definitely involves quite specific part of the state domestic

product. It is quite clear that the order can only become real appropriate material from the moment of concen-

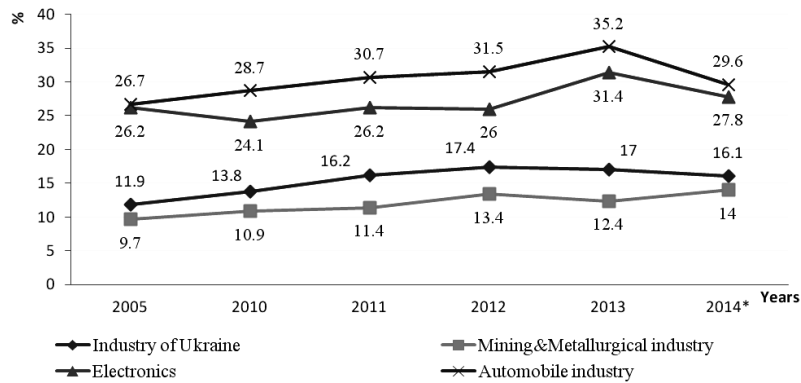


Fig. 1. Share (%) of the enterprises that engaged in innovative activity in 2005–2014 [5, 8]

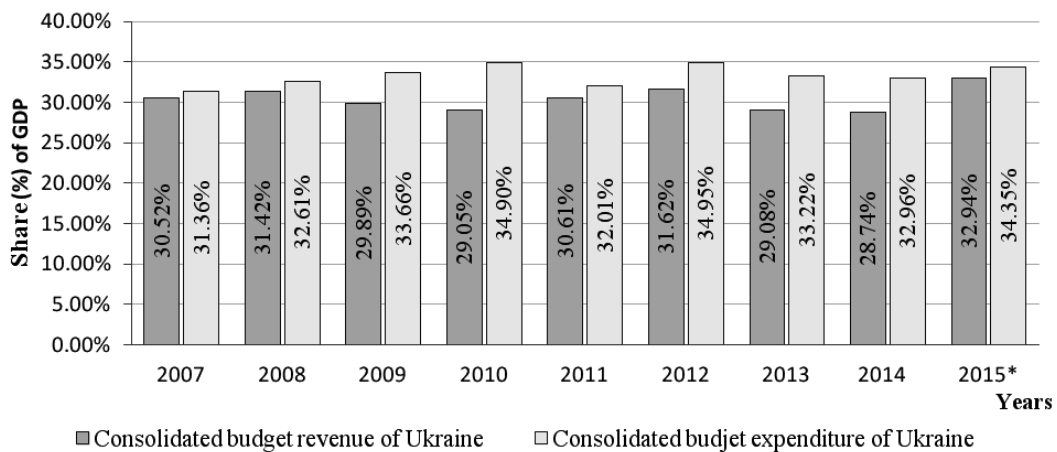


Fig. 2. Consolidated budget revenue and expenditure of Ukraine as share (%) of GDP in 2007–2015 [6, 9]

tration of corresponding material and financial resources in central government funds, especially, in the budget.

However, in any case, these resources are the material basis of objective public investment expansion. State freely uses them on its discretion as an individual owner. However, as a representative and an announcer of public interest, it is not entitled to ignore the objective reproductive imperatives.

1. A support of the existing reproductive proportions, the storage of “status quo” requires: firstly, strict compliance with the conditions of implementation of do-

mestic product; and secondly, correspondence of the government injections and leakages. For example, state profit tax leakages should be compensated by the direct or indirect government injections, adequate removal of not only the size but also the place and role in the reproductive process. Chronic abuse of this condition (Fig. 3) distorts the restoration of fixed assets (Table 3), lack of their own funds for financial investment and increasing requirements under rather expensive credit resources.

2. One of the leading investment aspects of the state should be centralized using investments as leverage ad-

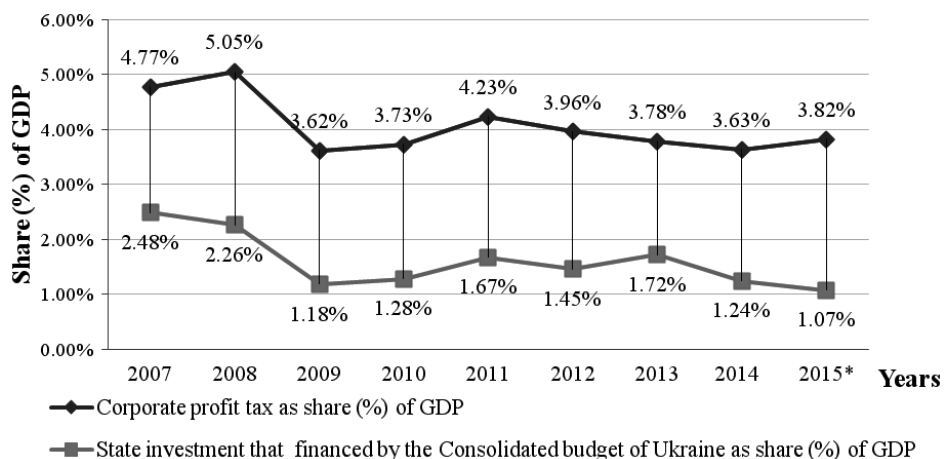


Fig. 3. Tax leakages and budget injections in investment flows in Ukraine, 2007–2015 [6, 9]

Table 3

Rate of depreciation of fixed assets [6]

Year	2009	2010	2011	2012	2013	2014*
Industry of Ukraine	60.0	74.9	75.9	77.6	77.3	83.5
Mining and quarrying	46.1	47.8	56.3	54.1	57.1	60.5

* Last available data

justment to market conditions and macroeconomic support of dynamic equilibrium.

Substantial public investment of state regulatory lies in their ability to induce their various positive externalities, such as: the effect of attracting (initiating the growth of business activity in technologically interconnected productions); innovative effect (spreading to adjacent areas of advanced technologies); transformational effect (arranging the structure of the GDP in correspondence with the social needs of consumption and accumulation by breeding sector investment; income effect (the increasing of real income and common welfare and the effect of productivity (the improvement of the quality and growth of aggregate supply, providing economic system with the dynamic pulse and outputting it to a new level of functioning.

3. The state affects all components of the GDP with the help of leakages and injections on the dynamics and structure of national commodity production. Therefore, even minor changes in taxes, government spending and other budget management tools can have significant short- and long-term consequences.

Pressing on the incentives onto the investment of economic actors, they should consider the fact that the decision is taken by them on the basis of the comparison of discounted rate in terms of net income, which they expect to receive as a result of certain innovative investment project and the variety of cost of the capital (interest rate). If the risk is much higher than the first component of the latter, the investment is more profitable and, there-

fore, real. State influence on the propensity of economic agents to the investments involves direct or indirect connections with these components of budget operations.

The main varieties of such connections are well-known. On the one hand, the so-called Keynesian scheme: “growth of the government spending (especially, public investment) → the increasing aggregate demand → market upturn of goods market, growth expectations of profit (income) from investment project realization → activation of innovation and investment activity” (Fig. 4). On the other hand, it is a classical mechanism: “reducing of public expenditure and tax rate → the growth of income of individuals in private sector of economy → non-equity expansion offerings in the market of credit resources → depletion of the opportunity cost of capital (interest rates) → the initiation of investment and innovative activity”.

It is clear, the hope for “orthodox” implementation of definite mechanisms is not fully adequate to the Ukrainian economy. So the formation and use of alternative domestic mobilization and use of resources should be, at least, rooted from the inherent properties of the national economy, providing dual stimulation of investment via the agreed over-time increasing in the rate of profit of economic participants and the reducing of the real interest rate on loans. The solution of this problem is quite possible if the state can generate double pulse: the reducing of the overall level of producers’ taxation income and the restructuring of public expenditures towards the strengthening of the financial support of the real economy sector, especially through the revitalization of the investor-state and the consumer-state.

It should immediately be noted that the above adjustments related to the tax and expenditure components of the budget resources (the first to be reduced, but the investment component of the latter should be extended) are possible if, firstly, to implement a number of parallel measures, directed at better use of non-government sources of income, such as:

a) more efficient use of state property, which will provide an opportunity to significantly increase the flow

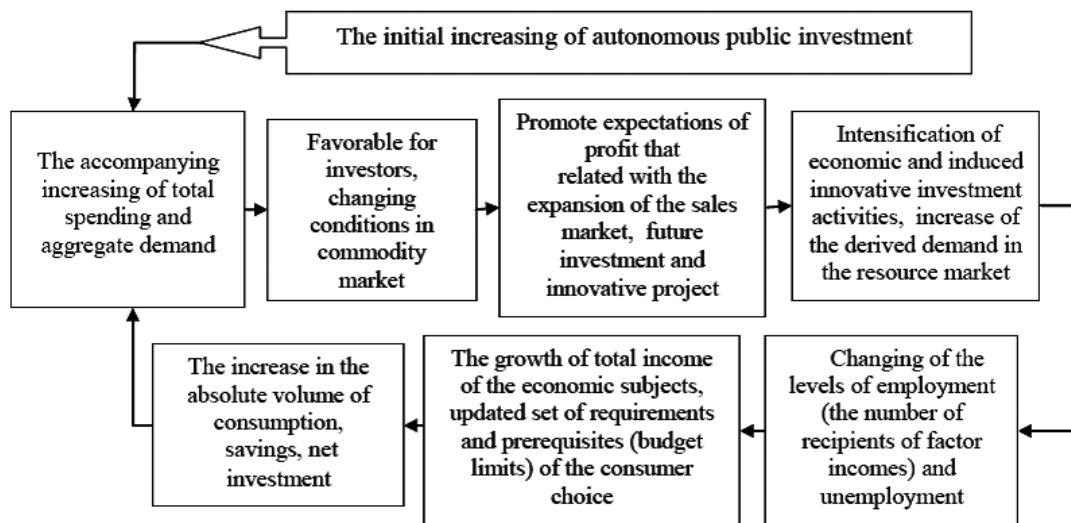


Fig. 4. Macroeconomic effects of the state investment expansion, developed by authors

of a part of profits of enterprises, which are in full public ownership or among state co-owners, to the state budget not only through increasing the corresponding standards, but also by more adequately determined amount of rent payments from natural resources;

b) a transfer of the whole Ukrainian National Bank total profit to the state budget revenues, except its own funds, defined by statutory regulations forming, and reserves to be used by the state, first of all, for realization of advanced and concrete investment target-oriented programs of public spending. Provided conditions of the fluctuations of the relevant revenues 11.898 bln. UAH (2011) to 51.075 bln. UAH (2015) [8], it will allow consolidating the position of the state entity that almost monopolizes and defines the philosophy and direction of structural changes in the national economy to enhance the potential of investment renewal in the terms of logical progressive development of state capitalism;

c) strengthening of state control intervention over the market for alcohol and tobacco products;

d) the establishment of export tariffs on the export of a number of raw materials;

e) the abolition of unjustified privileges in the Customs legislation;

f) strengthening of state control over transit payments of foreign companies for the use of Ukrainian air-, hydro- and geo-transport space;

g) legalization of economy and reorientation of the illegal financial flows of purely private services or group-oriented (the clans) interests to meet social needs and etc.;

h) Secondly, it seems to be possible to expand the tax base by setting high excise taxes on luxurious and foreign goods, whose analogues or substitutes are produced in Ukraine; to strengthen taxes on socially and environmentally hazardous economic activities, speculative trading, etc.

Moreover, it should be noted that the level of innovative activity of economic entities is extremely sensitive to the conditions of taxation. Individuals of innovative activities care about its stability, transparency, ease taxation procedures, including the total amount of taxes and fees to be paid, the total amount of time needed for tax administration, processing tax returns and “communication” with the tax authorities, the corruptness of them (Fig. 5).

Level of taxation is not considered as an obstacle for innovators, focused on getting monopolistic rents and extra profits. It is confirmed by the listing in the TOP-20 world innovation leaders of countries with relatively high levels of taxation (France, where the total tax rate is 66.6 %, Sweden – 49.4 %, the USA – 43.8 %, Finland – 40.0 %, Netherlands – 39.0 %).

As for Ukraine, under favourable tax conditions for business it takes 108th place among 189 surveyed countries of the world, according to the World Bank Report “Paying Taxes – 2015” (Table 4).

Thirdly, there is the necessity in stimulation of the potential of the active form of the budget deficit, which includes the use of non-inflationary mechanisms of deficit coverage and allocation of additional resources in the form of investment into the real economy sector according to the chosen system of national priorities.

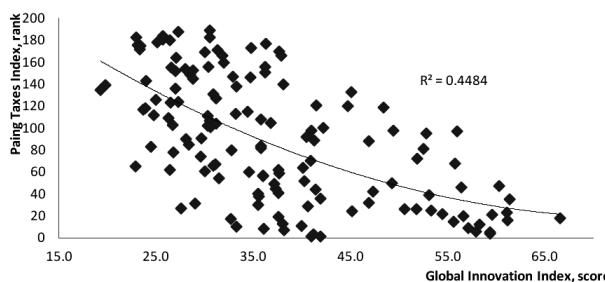


Fig. 5. The correlation between Global Innovation Index and Paying Taxes Index (Source: [5, 10])

Table 4

Paying Taxes ranking (2015) [10]

Rank	Economy	Total tax rate (% of commercial profit)	Total time to comply (hours per year)	Number of tax payments
1	Qatar	11.3	41	4
1	United Arab Emirates	14.8	12	4
3	Saudi Arabia	14.5	64	3
4	Hong Kong SAR, China	22.8	78	3
5	Singapore	18.4	82	5
6	Ireland	25.9	80	9
·				
·				
·				
108	Ukraine	52.9	350	5
·				
·				
·				
189	Bolivia	83.7	1025	42
	Lowest	7.4	12	3
	Highest	216.5	2600	71
	Total worldwide average	40.9	264	26

The increasing absolute and relative level of gross investment expenditures of enterprises of the MMC under rapid growth of their innovative share will be stimulated by:

a) the differentiation of income tax rates, depending on the direction of the company, the nature and purpose of its use, including the introduction of proportional and incremental tax rebates for carrying out R&D and the introduction of tax credits on capital investment expenditures;

b) the determination of a proportional relationship between the size of the tax rate for commercial banks and long-term investment loans in their “loan portfolio”;

c) control of innovative range of investment of companies which are co-owned by the state;

d) tariff escalation;

e) tax preferences for commercial banks to create their own special insurance funds in order to reduce the risk of active and passive investment operations.

It should be taken into account that because of its high risk, innovative activity has both certain general

features of financial support, well-known to experts, and specific, related to its individual forms and innovations features which are being implemented.

Thus, projects of the development and implementation of pioneering innovation with strong macroeconomic externalities are objectively and extremely dependable on external financing. And it should be provided by the state, the representative of strategic national interests, which is responsible for increasing national competitiveness and it should not allow outsiders (non-residents) to interfere with potential carriers of monopolistic competitive advantages, intellectual and technological sources of rent. Therefore, it is proposed to create a national development budget and the expediency of using the active form of the budget deficit for vanguard financial support of innovative projects is substantiated. As for the modification of innovations that are generally based on the reproductive and renovated contours and exact financial flows, their financial support should be rationally carried out via various tax and credit preferences. They are posteriori (supplied, in order to get the final result) to companies that introduce product innovations, and they are priori (relevant to those who implement process innovations). It is obvious that any grant of a priori benefits must be accompanied by control over budget funds and stringent administrative and criminal penalties for their misuse.

The state can implement the generation of its own investment – expenditure signal and its distribution in industries and sectors across via:

a) stricter repayment of debts on wages and social benefits, pension increasing, attracting the use of non-inflationary currency emission mechanisms which have good prospects provided contraction of the monetary base to 30.225 bln. UAH last year (from September 2014 to September 2015);

b) the intensification of the use of such a powerful lever as government procurement of local goods and services under military aggression in the eastern Ukraine and the improvement of the structure of aggregate demand and aggregate supply, which primarily should contribute to increased demand for the products of the MMC on this basis. Hence, there is need for a modern contract system, which provides mechanisms for managing public orders, concluding contractual agreements and monitoring their implementation; tight quality standards which are as close to the international standards as possible; product certification; constant monitoring of global innovation in this area and so on.

The strengthening of the stimulating effect of the state contract system will be assisted by the following:

- development and adoption of indicative plans (annual and five-year-plans) for manufacturing the main investment products, to be acquired by the state and the further transfer to leasing to businesses. On the one hand, it will enable to improve load capacities of domestic enterprises of mining and metallurgical and machine-building and improve their financial situation. On the other hand, supplying prospects to begin production activities with significantly smaller volume of “starting capital” will stimulate business activity of small and medium-sized enterprises, which are the most innovative active layer of business;

- improvement of the investment projects and programs efficiency, implemented by the state, attracting the strict previous export selection of the potential objects of state support;

- introduction of centralized control over the use of depreciation and accumulation of assets in companies, controlled by the state, especially natural monopolies;

- restructuring of public expenditure towards reducing funds for financial support to inefficient functioning enterprises and sectors, and systematic reorientation of investment flows from traditional industries to new advanced ones that define the strategic competitiveness of the national economy and creation of appropriate national development institutions.

It is crucial that multiplicatively accelerated and low inflation character is the main feature of the formation and use of budget target potential of direct state investment expansion. Provided by the state, the initial investment impulse will be used in related and supporting sectors and industries, according to a chain reaction. The initial investment costs of the state may be exceeded by the final additional GDP growth by 4–6 times, even in the absence of classic market conditions (which adequate investment multiplier concept of J. M. Keynes), taking into account the high marginal propensity to consumerism in Ukraine. It should be also added that the stimulation of domestic demand for the products of the MMC on behalf of the private sector, its motivation to the expansion of volume of production and the definite additional investment will be contributed, because of: a) the legitimated requirements to the content of local components in the products, sold in the Ukrainian market, and b) the dissemination of practices of export-import purchases.

Conclusions. Considering all above, it should be noted that the implementation of this set of measures means the state’s simultaneous and optimized systematic performance of functions of direct investment entity and its regulation, according to the criteria of social and economic efficiency. This, to some extent, meets the objective properties of budget resources, which, on the one hand, is a source of considerable public investment; on the other hand, it is the material macro basis of investment regulation. Thus, their catalytic role both in the reproductive processes and in the improvement of the competitiveness of industries and national strategic priorities, primarily, the MMC, is beyond any doubt.

References.

1. Tarasevych, V., ed., 2012. *National economy*. Kyiv: Znannia.
2. Pivnyak, G. G. and Shashenko, O. M., 2015. Innovations and safety for coal mines in Ukraine. *Naukovyi Visnyk Natsionalnoho Hirnychoho Universytetu*, 6, pp. 118–121.
3. Pylypenko, Yu. I., 2012. The technological system of society and its structure. *Naukovyi Visnyk Natsionalnoho Hirnychoho Universytetu*, 6(132), pp. 147–153.
4. Fedulova, L. I., 2013. Innovative vector of industry development in Ukraine. *Economy of Ukraine*, 4, pp. 15–23.
5. The Global Innovation Index. – Available from: www.globalinnovationindex.org [Accessed 30th September 2016].

6. The official website of the State Statistics Service of Ukraine. [online] Available at: <www.ukrstat.gov.ua> [Accessed 29 September 2016].
7. State Statistics Service of Ukraine, 2014. *Research and Innovation in Ukraine in the 2014. Statistical Yearbook*. Kyiv: State Statistics Service of Ukraine.
8. The official website of the National Bank of Ukraine. [online] Available at: <www.bank.gov.ua>. [Accessed 10 February 2016].
9. The official website of the Ministry of Finance of Ukraine. [online] Available at: <www.minfin.gov.ua> [Accessed 20th September 2016].
10. Paying Taxes 2015: The global picture. [online] Available at: <www.doingbusiness.org/Paying-Taxes-2015.pdf> [Accessed 25 February 2016].

Мета. Розкрити фундаментальні проблеми, що характерні для гірничо-металургійного комплексу України в сучасних умовах, визначити перспективи його посткризового відновлення та основні напрями державної підтримки його інноваційного розвитку.

Методика. При вирішенні поставлених завдань були використані наступні методи: наукового абстрагування – при встановленні визначальних проблем забезпечення інноваційної активності національного гірничо-металургійного комплексу; агрегування та структурного аналізу – при визначенні імперативів бюджетного регулювання державної інвестиційної експансії; кореляційного й статистичного аналізу, економіко-математичного моделювання – при дослідженні напрямів та форм бюджетного стимулювання інноваційної активності.

Результати. Показана ключова роль гірничо-металургійного комплексу у підтримці економічного зростання в Україні, його значення для забезпечення валютних надходжень та отримання позитивного сальдо торгового балансу. Охарактеризовані головні проблеми й перспективи державного регулювання інноваційного відновлення гірничої та металургійної промисловості у посткризовий період. Визначені макроекономічні основи, механізми та форми ефективної державної підтримки інвестиційно-інноваційної активізації розвитку гірничо-металургійного комплексу. Конкретизовані основні напрями забезпечення додаткових надходжень до консолідованого бюджету України, встановлені шляхи формування фінансової бази для реалізації державної інвестиційної експансії за рахунок розширення неподаткових доходів.

Наукова новизна. Полягає у вдосконаленні моделі макроекономічного механізму державної інвестиційної експансії та розробці конкретних пропозицій щодо стимулювання зростання інноваційно-інвестиційних витратів підприємств гірничо-металургійного комплексу

Практична значимість. Розроблені засади державної підтримки інноваційно-інвестиційної експансії в гірничій і металургійній промисловості в умовах посткризових викликів, запропоновано комплекс конкретних заходів бюджетного стимулювання інноваційної активності.

Ключові слова: *інновації, гірничо-металургійний комплекс, економічна криза, державна інвестиційна експансія, державний бюджет*

Цель. Раскрыть фундаментальные проблемы, характерные для горно-металлургического комплекса Украины в современных условиях, определить перспективы его посткризового восстановления и основные направления государственной поддержки его инновационного развития.

Методика. При решении поставленных задач были использованы следующие методы: научного абстрагирования – при выделении важнейших проблем обеспечения инновационной активности национального горно-металлургического комплекса; агрегирования и структурного анализа – при определении императивов бюджетного регулирования государственной инвестиционной экспансии; корреляционного и статистического анализа, экономико-математического моделирования – при исследовании направлений и форм бюджетного стимулирования инновационной активности.

Результаты. Показана ключевая роль горно-металлургического комплекса в поддержке экономического роста в Украине, его значение для обеспечения валютных поступлений и достижения позитивного сальдо торгового баланса. Охарактеризованы главные проблемы и перспективы государственного регулирования инновационного восстановления горно-металлургической промышленности в посткризисный период. Определены макроэкономические основы, механизмы и формы эффективной государственной поддержки инновационного развития горно-металлургического комплекса. Конкретизированы основные направления обеспечения дополнительных поступлений в консолидированный бюджет Украины, раскрыты пути формирования финансовой базы государственной инвестиционной экспансии за счет расширения неналоговых доходов.

Научная новизна. Состоит в усовершенствовании модели макроэкономического механизма государственной инвестиционной экспансии и разработке конкретных предложений относительно стимулирования роста инновационно-инвестиционных затрат предприятий горно-металлургического комплекса.

Практическая значимость. Разработаны основы государственной поддержки инновационно-инвестиционной экспансии в горно-металлургической промышленности в условиях посткризисных вызовов, предложен комплекс конкретных мероприятий бюджетного стимулирования инновационной активности.

Ключевые слова: *инновации, горно-металлургический комплекс, экономический кризис, государственная инвестиционная экспансия, государственный бюджет*

Рекомендовано до публікації докт. екон. наук Ю. І. Пилипенком. Дата надходження рукопису 01.04.16.