PROBLEMS AND PROSPECTS OF IMPROVING THE EFFICIENCY OF INNOVATION ACTIVITIES IN UZBEKISTAN

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ABSTRACT

In modern conditions, an important condition for the dynamic development of the Republic of Uzbekistan is the accelerated introduction of modern innovative technologies in the economy, social and other spheres with a wide application of science and technology. Dynamically developing all spheres of public and state life of the country require close support of the ongoing reforms based on modern innovative ideas, developments and technologies that ensure a quick and qualitative leap of the country into the ranks of the leaders of world civilization. This determines the relevance of the topic being developed. This paper examines current situation related to innovation potential worldwide and challenges confronted by countries. It also examines innovation system in Uzbekistan and strategies to improve the climate for development of innovation economy.

KEYWORDS: *innovation, innovation process, innovative developments, national innovative system, state regulation.*

INTRODUCTION

At present, it is quite obvious that different states demonstrate different levels of the innovative development, but sometimes they can be similar to each other in terms of models, institutions, mechanisms of this development, the subject-object and subject side of innovation. Thus, the relevance of the study of this problems we have stated is increasing due to the presence of a large number of countries for analyzing the prerequisites, factors and conditions for the implementation of innovation policy. An important condition for the dynamic development of the Republic of Uzbekistan is the accelerated introduction of modern innovative technologies in the economy, social and other areas with widespread use of the achievements of science and technology.

In the increasingly competitive world, several nations are striving to enhance creative ability with a view to economic growth and efficiency. Competition and innovation are important in building innovation capacity for the countries, as they provide possible pathways to accelerate the technological catch-up cycle as well as maintain productivity growth and competitiveness. Charting the innovation index will enable developed economies to catch up, as it provides countries' overall innovation output. At the heart of the innovative development of the economy is the process of finding, training, creation, implementation and commercialization of innovations, i. e. ensuring the transformation of ideas directly to innovation (Kurpayinidi, 2015).

Companies' ability to fulfill customer standards is highly dependent on their ability to develop and produce new products at reasonable prices. Innovation is a crucial catalyst for achieving sustainable competitive advantages and is becoming one of the biggest obstacles for small and medium-sized enterprises (SMEs) in particular (O'Regan et al., 2006).

Many analysts believe that this century would be a culture focused on know-how. It will be defined by the development, diffusion and adoption of new technologies that are very active. In this sense, a new term, the national system of innovation (NIS), has been introduced and intensively studied. Some analysts also suggest that this century is going to be a century of regionalisation in these days. Within the globalized world, the nation-state has lost its significance in cultural, R&D and innovation activities.

A system approach is needed to effectively strengthen national potential for innovation. In this paper we highlight that the RIS (Regional Innovation System) framework is a good tool for this reason. Efficient RISs create a competent NIS (NAtional Innovation Systems) through the generation of competitive SISs (Sectoral Innovation Systems) in the regions concerned. We also claim that the correct number of applicable innovation actors should be composed of a RIS in three groups: academia, the public research sector and industry (Chung, 2002).

Global economic growth appears to be losing momentum relative to last year. Productivity growth is at a record low. Trade battles are brewing. Economic uncertainty is high. Despite this contemplative outlook, innovation is thriving worldwide. Formal innovation – as measured by research and development (R&D) and patents – and less formal forms of innovation are flourishing in developed and emerging economies simultaneously. Established and emerging economies of all kinds today facilitate innovation for economic and social growth. This is now much well understood that creativity exists in all economic fields, not just in high-tech firms and development sectors. As a result, economies are concentrating their attention squarely on building and sustaining environments and networks for sound and dynamic innovation.

As part of the implementation of the Concept of Administrative Reforms in the Republic of Uzbekistan approved by Decree of the President of the Republic of Uzbekistan of September 8, 2017 No. UP-5185, the task of creating a system of strategic planning, allowing the formation of future models of innovative development of priority areas and industries based on long-term growth scenarios intellectual and technological potential of the country.

The degree to which the problem is developed. The theoretical and methodological foundations of the innovative development of the industrial enterprises are considered in the works of foreign scientists, such as P.F. Drucker, J. Clark, R. Solow, K. Freeman, J. Schumpeter, F. Hayek, R. Harrod.

The founders of the modern approach to the analysis of innovations are F. Agion, R. Atkinson, E. Beinhoker, W. Baumol, P. Krugman, R. Lipsi, M. Mandel, E. Mansfield, R. Nelson, D. Audrets, P. Romer , R. Solow, F. Hayek, E. Helpman, P. Hitt, J. Schumpeter. Significant theoretical contribution to the study of the   innovative economics, the conceptualization of the term "innovation" and the classification of its components were made by scientists of the CIS countries O.N. Antipina, L.M. Gokhberg, S.D. Ilyenkova, G.I. Morozova, A.A. Porokhovsky, A.I. Prigozhin, S.N. Silvestrov, E.A. Utkin, N.L. Frolova, Yu.V. Yakovets.

RESEARCH METHODOLOGY

The article used high-quality analytical methods, expert assessment methods, scientific review, abstract-logical thinking, comparative analysis, as well as methods of induction and deduction. The study used statistical data from the Ministry of Economy and Industry of the Republic of Uzbekistan, the State Committee on Statistics of the Republic of Uzbekistan. The paper used secondary sources of information.

RESULTS AND DISCUSSION

Role of innovation in economic growth. International research and development spending expanded faster than the world economy, more than doubling between 1996 and 2016. Global government spending on R&D (GERD) increased by about 5% in 2017, while company R&D spending increased by 6.7%, the largest increase since 2011. Only so many scientists around the world have ever worked in history to address the most important global scientific problems.

Over past years, the globe has seen an rise over expenditure in innovation, as assessed by the economies' average investments at all stages of growth. In 2017 and 2018 the use of intellectual property (IP) hit record highs. Amid economic instability, spending on innovation has increased and seems robust in given the current economic cycle. The challenge is whether this pattern will continue as global economic growth declines in 2019. There are two issues which stand out (Global Innovation Index, 2019):

First, the Global Innovation Index 2019 shows that public R&D expenditures—in particular, in some high-income economies responsible for driving the technology frontier—are growing slowly or not at all. Waning public support for R&D in high-income economies is concerning given its central role in funding basic R&D and other blue sky research, which are key to future innovations including for health innovation.

Second, increased protectionism—in particular, protectionism that impacts technology-intensive sectors and knowledge flows—poses risks to global innovation networks and innovation diffusion. If left uncontained, these new obstacles to international trade, investment, and workforce mobility will lead to a slowdown of growth in innovation productivity and diffusion across the globe.

It is well known that innovation is one of the main factors of intensive economic growth. It is no coincidence that the most developed countries (Switzerland, 63.9 thousand dollars of GDP per capita at PPP, USA - 57.6 thousand dollars, Singapore - 87.8 thousand dollars, the Netherlands - 50.5 thousand dollars ., Ireland - 71.5 thousand dollars, etc.) top the

list of countries with the highest competitive indices, according to experts from the World Bank for 2016.

Uzbekistan Global Innovation Index is about 30 points (on a 100-point scale), and the republic takes a position within the 80-90th place in World Economic Forum (WEF) ranking by global competitiveness index. The gap with the average rating of this index for the leading countries (57.8) is about 2 times. In other indicators of innovative development, the gaps are even more significant: in the number of articles in international scientific journals (per million people) - almost 400 times, in the export of high-tech products (in the structure of exports) Uzbekistan is 4.5 times behind.

A similar picture develops for indicators patent activity, the number of innovative small enterprises, the share of innovative products in the volume of output industries and sectors of the innovation activity of the economy. Currently, due to the reduction of the period of realization of scientific innovations to entrepreneurs/enterprises, it is necessary to quickly respond to changing national and international needs. Display matching conditions and factors innovation development in Uzbekistan with world landmarks allows you to make conclusion: the main factors hindering the transition to innovative economy in Uzbekistan, are underdeveloped institutions and inadequate funding science and new technologies in republic. In Uzbekistan there are certain divided scientific and technological backlogs in cotton growing solar metallurgy breeding plants and row other directions.

economy, the presence of innovative products in the market and other indicators of innovative activity. Nevertheless, in Uzbekistan there are certain scientific and technological reserves in cotton growing, solar metallurgy (solar physics), plant breeding, biology, chemistry, mathematics, geology and a number of other areas. This state of affairs indicates relevance and timeliness of the issue of creating the necessary conditions and macroeconomic prerequisites for intensification innovation activity in Uzbekistan.

Kurpayanidi and Muminova (2016) states that the key challenge in all countries is to accelerate the technological development of the global economy, increasing competition for the factors that determine the competitiveness of national innovation systems. Based on this, the aim is to increase the level of

EMPHASIS ON INCENTIVES

In order to accelerate development innovation economy in Uzbekistan is proposed pay particular attention to following points:

- provide incentives for enhance innovation activities that arise only in conditions of amplification fair competition competitive markets for goods and services through all kinds of contests, innovation fairs, and stimulate large corporations in the development of long-term plans innovation development;

- efficiently use credit and investment resources. An econometric analysis of world development statistics carried out at the IPMI showed that an increase in investments in science and technology, the training of researchers and technicians employed in the R&D sector, does not necessarily automatically entail an increase in total factor productivity (TFP).

EPRA International Journal of Research and Development (IJRD)

Leading countries in terms of intensive economic growth

Countries	Level of development		Indicators of innovative development		
	GDP per capita (in thousand $)	PPP per capita GDP (in thousands $)	Global Innovation Index	Export of high-tech goods (% of export of industrial goods)	Articles in international journals
Switzerland	79,9	63,9	66,3	27,1	2534,4
USA	57,6	57,6	61,4	20	1265,7
Singapore	53,0	87,8	59,2	67,4	2007,0
Ireland	64,2	71,5	59,0	29,8	1431,8
Netherlands	45,6	50,5	58,3	-	1759,8
Country average	50,8	53,8	57,8	21,4	4455,7
Uzbekistan	2,1	6,5	29,1	4,7	11,2
The gap between the average for countries and Uzbekistan	24,1	8,3	2,0	4,5	397,5

Source: author's calculations according to the World Bank (WDI) and Government Statistics Commitee indicators of the Republic of Uzbekistan

This is possible only when the index the quality of the country's institutions exceeds the identified threshold a value of 5.0 on a 10-point scale. The quality of state institutions by the corruption control index is 7.2 in Chile, 5.3 in Malaysia, 7.3 in Slovenia, and 2.1 in Uzbekistan;

- focus on the modernization and development of the manufacturing sector. However this process will be lengthy and should be carried out as part of carefully planned steps based on existing comparative advantages of the country. In Uzbekistan, rural the economy plays an important role in the economy. Therefore creating new manufacturing capacities integrated with agriculture, as well as the formation of new agricultural value chains can become important an element of diversification strategies.

The main factors hindering the transition to innovative economy in Uzbekistan are underdeveloped institutions and inadequate funding of science and new technologies.

EPRA International Journal of Research and Development (IJRD)

Factors of inclusive growth and innovative development

Countries	R&D expenses (% of GDP, 2015))	Human Development Index (HDI 1 = themostdeveloped)	Energy Efficiency (GDP per unit of energy consumption; dollars per 1 kg of oil equivalent per post. prices	State effectiveness (from 0 to +5)	Inclusive Growth Index (2017)	Level of compliance with current legislation (from 0 to +5)	"Corruption Control Index (0-100, where 100 - lack of corruption)
Switzerland	2,96	0,939	18,70	4,5	5,75	4,44	86
Sweden	3,3	0,913	8,89	4,3	5,3	4,54	88
United Kingdom	1,7	0,909	13,78	4,1	4,69	4,13	81
USA	2,8	0,92	7,46	4,0	4,44	4,17	74
Finland	2,9	0,895	6,28	4,4	5,04	4,52	89
Singapore	2,2	0,925	15,68	4,7	n/a	4,33	84
Ireland	1,51	0,923	17,84	3,9	5,01	4,04	73
Denmark	3	0,925	15,69	4,4	5,31	4,4	90
Netherlands	2	0,924	10,56	4,3	5,28	4,39	83
Germany	2,9	0,926	11,53	4,2	4,99	4,11	81
South Korea	4,2	0,901	6,32	3,6	4,95	3,64	53
Luxembourg	1,3	0,898	13,65	4,2	5,86	4,21	81
Iceland	2,2	0,921	2,31	3,9	5,48	4,01	78
Hong Kong	0,8	0,917	26,79	4,4	n/a	4,2	77
Canada	1,6	0,92	5,45	4,3	4,9	4,34	82
Japan	3,3	0,903	10,75	4,3	4,36	3,88	72
New Zealand	1,2	0,915	7,56	4,4	5,09	4,43	90
France	2,2	0,897	10,26	3,9	4,83	3,91	69
Australia	2,2	0,939	8,13	4,1	5,18	4,25	79
Austria	3,1	0,893	11,77	4,0	5,05	4,28	75
Country average	2,4	0,915	11,47	4,2	5,1	4,21	79,3
Uzbekistan	0,2	0,701	3,57	1,9	3,93	1,37	21
The gap between the average for countries and Uzbekistan (in	11,8	1,305	3,21	2,2	1,29	3,07	3,8

Source: author's calculations according to the World Bank (WDI) and Government Statistics Commitee indicators of the Republic of Uzbekistan

CONCLUSION

In conclusion, it should be noted that the creation of an effective national infrastructure to support innovation is one of the most important conditions for the further scientific, technical, and economic development of the Republic of Uzbekistan, and will also create truly favorable conditions for innovation in the context of the formation of a global digital economy.

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