



AN EFFECTIVE EMPLOYMENT MODEL FOR INCLUSIVE ECONOMIC GROWTH IN UZBEKISTAN CONTEXT

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Abstract: *In the article, effective employment model is offered for inclusive economic growth theoretically. The impact of innovative economic growth factors to effective employment has been studied on the basis of the multi-factor regression equation. The indicators of investments effectiveness to human capital, the population self-employment, level of the employed population's wages, the education of the population in the digital economy are analyzed.*

Keywords: *innovative economic growth factors, digital economy, "Schumpeter effect", "refugee effect", self-employment, effective employment, inclusive growth.*

Introduction. It is known that in conditions of transition to innovation economy, public procurement, investment and human capital have an impact on economic growth. Qualification, based on the increase in knowledge, human capital has a productive impact on economic development. Innovation and technological advances increase the demand for Labor classifications of lower and middle skilled personnel. The result-structural change and frictional unemployment can lead to an increase.

The introduction of opportunities for self-employed people to impose unemployment has a positive effect on the quantitative growth of GDP. The increase in the share of self-employment increases entrepreneurial activity. The inclusion of self-employed people in the composition of entrepreneurs can lead to the fact that entrepreneurs who carry out all business activities are treated as individual entrepreneurs.

It is known that the application of an economic-mathematical model to estimate which factors have a greater impact on economic growth will give concrete results. In our studies, both such models were used.

In the development of this model, self-employed persons were identified as the main variables. In determining the number of self-employed persons, the age limit was divided between 16 and 60 years of age who were eligible for Labor.

The aim of the study is to develop scientific suggestions for effective employment generation on the basis of assessment and analysis of the impact of innovative economic growth factors on effective employment.

Relevance of the research topic. As a result of the Great Regression that took place in the world in 2007-2009, uncertainty in entrepreneurial activity came to light, and the main part of the population occupied in the economy was separated from their jobs. The COVID-19 pandemic has also come out of the process. Its result is similar to the laws of physics to the economy. It had an impact similar to Newton's counter-forces ($F=-F$). This process can be seen clearly in the decline in

the pace of economic growth, the loss of primary sources of income in the lower and middle strata of the population, the decline in the standard of living.

In Uzbekistan, the national goals and objectives in the field of sustainable development for the period up to 2030 have been defined, and its 8th goal is to promote sustainable and universal economic growth on the basis of increasing effective employment and providing decent work for men and women.

In its 8.3-th task, the implementation of active and sluggish measures in the labor market, protection of private property, support of small and large businesses and private entrepreneurship and elimination of obstacles to rapid development through the provision of decent work to the population, especially young people, Invalids and the creation of favorable conditions for effective employment are defined 1. This is evidenced by the relevance of the topic of this article.

Introduction to the scientific problem. It is known that economic growth is understood to be observed in a certain period of time in the total production volume of the economy, in the volume of GDP or GNP, in terms of its quantity and quality.

The employment rate is assessed taking into account demographic characteristics. It will also be used to measure the level of employment achieved on the basis of intensive and extensive growth of economic growth. The level of achievement of high employment of the population in the extensive economic growth is considered more important than its labor quality. In intensive economic growth, however, the quality of labor resources, the coverage of the population with training, scientific research and experimental design work (ITTKI), information technologies and innovation are evaluated according to the scale. Therefore, in ensuring intensive economic growth, it is important to increase the level of coverage of the population with education and the quality of labor resources. Currently, this process has been transformed to improve the quality of human capital. Its synergistic effect occurs in the middle-aged laborers in the medium term, and in the longer term in the younger ones.

The link between employment rate and economic growth has been studied in various economic models. Kapos (2005) and Dopke (2001) have argued that economic growth will create new jobs by identifying the causal link between economic growth and employment rate in terms of various timeframes, among others. 2

This, in turn, suggests that economic growth can be influenced differently by the labor market. According to the theory of Shmed (2008), the role of models of ecstatic and intensive economic growth in the creation of new jobs is great. Therefore, as a result of the increase in gross demand for labor, economic growth occurs, that is, on the basis of increasing the volume of production resources or the effectiveness of the use of factors, or a combination of both.

¹ Ўзбекистон Республикаси Вазирлар Маҳкамасининг Қарори. 2030 йилгача бўлган даврда барқарор ривожланиш соҳасидаги миллий мақсад ва вазифаларни амалга ошириш чоратadbirlари тўғрисида. 841-сон. 20.10.2018 й. <https://lex.uz/docs/4013356>

²Phạm Hồng Mạnh, Nguyễn Văn Ngọc. Relationship between Economic Growth and Employment in Vietnam. Phạm Hồng Mạnh, Nguyễn Văn Ngọc & Hà Thị Thiệu Dao | 40 – 50, on 22 February 2018.

Kapos (2005) ³ studied the link between economic growth and employment rate in different countries and evaluated the elasticity of employment, developed a forecast for employment situation in these countries. In addition, Herman E. (2011) ⁴ identified the extent to which employment affects economic growth and revenue in the EU countries in 2000-2010 years. According to him, although the elasticity of employment in the EU to economic growth is low, in different countries this indicator differs from each other.

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The usage of the term “inclusive” in the characterization of growth episodes can be traced back at least to the turn of the century when Kakwani and Pernia (2000) employed it to highlight the contents of pro-poor growth as that one enables the poor to actively participate in it and benefit from the growth process. Inclusive growth involved both poverty and inequality reduction. Ali and Son (2007) defines inclusive growth as the growth process that increases the social opportunity function which depends upon the average opportunities available to the population and how these opportunities are shared among the population. According to Ali (2007) the key elements in inclusive growth are employment and productivity, development in human capabilities and social safety nets and the targeted intervention. Habitat (2009) defines inclusiveness of economic growth as gross domestic product growth that leads to significant poverty reduction. Elena and Susana (2010) of World Bank focused on both the pace and pattern of growth and have identified the employability of the poor and the cost of capital, geography and infrastructure as building blocks of inclusive growth analytical framework. Elena and Susana (2010) defined inclusive growth as that growth which can reduce poverty and allow people to contribute to economic growth and benefit from the growth process. They pointed out that rapid pace of growth is unquestionable necessary for substantial poverty reduction but for growth to be sustainable in the long run should be broad based across the sectors and inclusive of the large part of the country’s labor force. This definition of inclusive growth has a direct link between the micro and macro determinants of growth. Inclusive growth is disadvantage reducing growth (Klasen, 2010). Growth Report (2010) notes that inclusiveness is a concept that encompass equity, equality of opportunity and protection in market and employment transitions. World Bank (2009) stated that inclusive growth can be achieved by focusing on expanding the regional scope of economic growth, expanding access to assets and thriving markets and expanding equity in the opportunities for next generation.

The typical model of inclusive growth for the economy can be constructed as follows.

³ Kapos, S. (2005), “The Employment Intensity of Growth: Trends and Macroeconomic Determinants”, Labor Markets in Asia: Issues and Perspectives, 143-201, retrieved from http://www.ilo.org/wcmsp5/groups/public/@ed_emp/@emp_elm/documents/publication/wcms_143163.pdf on Sep. 15, 2013.

⁴ Herman, E. (2011), “The Impact of Economic Growth Process on Employment in European Union Countries”, Romanian Economic Journal, 14(42): 47-67.

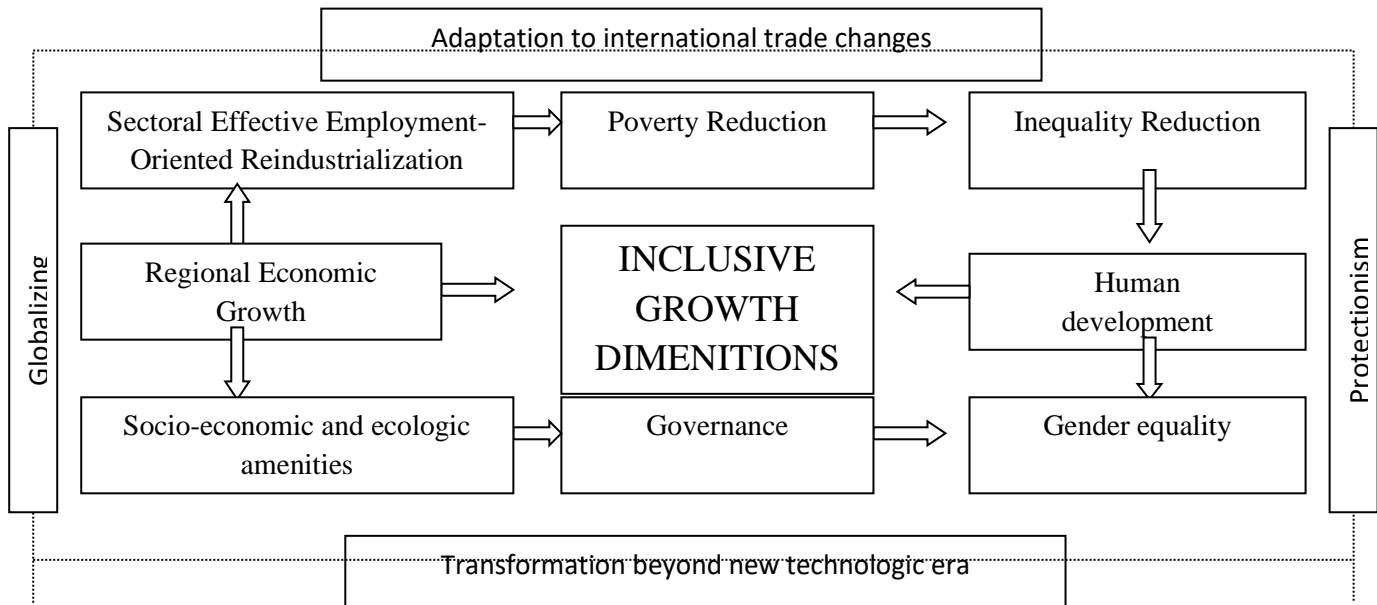


Figure 1. Theoretical Effective Employment Model for Inclusive Economic Growth

The theoretical model exhibits the key drivers of inclusive growth in a country. First and foremost, faster and sustainable economic growth is pre requisite of inclusive growth. The combination of concepts of economic growth and poverty reduction shapes the direction of effective employment. The new growth model, which places man and his standard of living at the center of national economic policy and international economic integration, requires inclusive growth in the context of the Fourth Industrial Revolution (figure 1).

Labor productivity has a positive impact on inclusive and sustainable development. Labor productivity is high in the types of employment in areas with high service and science capacity. Inclusive development was rapidly influenced by the size of the working poors. Inefficient employment requires the transfer of employees to productive employment. Working poors should benefit significantly from the income generated by labor productivity.

It is necessary to pay attention to the environmental component of sustainable development and re-industrialize traditional agriculture on the basis of subsidies, where the population is employed highly.

Economic Growth should provide basic socio economic amenities in the form of food for all, health for all, education for all, electricity for all, access to all weather-good roads and safe drinking water. Government should achieve administrative efficiency and should guarantee gender equity so that the trickle-down effect of the growth will actually materialise. Employment outcome is an important outcome of inclusiveness. Inclusive growth can substantially reduce the income inequality both vertical and horizontal. All these will enhance the quality of human capabilities.

The application of the results of these studies in the conditions of Uzbekistan and the assessment of its impact on economic growth are of great scientific importance.

Research methodology. Techniques such as induction, deduction, quantitative and qualitative analysis, comparison and statistical analysis were used in the study.

Analysis and results. It is known that in developed countries, more than 50 percent of the gross domestic product is created from the "knowledge economy" account, that is, innovation and highly qualified personnel. Transformation from traditional economic growth factors that provide economic growth to innovative economic growth factors is emerging. While 70 per cent of economic growth corresponds to traditional economic growth, the remaining 30 per cent is driven by the evasion of innovative economic growth factors. 5

In the future, it is expected that this will be the opposite of the account (Figure 2).

Factors of traditional economic growth	Factors of innovative economic growth
<ul style="list-style-type: none"> • Investment • Mineral raw material • Land-Water Resources • Labor resources 	<ul style="list-style-type: none"> • Quality of human capital • Transition to the new technological ukland • Digital economy • International integration

Figure 2. Factors affecting economic growth

The digital economy provides for the rapid economic growth of developing countries, as well as increases labor and capital productivity and facilitates their entry into the world market. In emerging markets, the digital economy is growing by 15-25 percent per year (WEF 2015). 6

In the digital economy, the salaries of the employed population are higher than the average wage, and digital start-up projects in developing countries are generating new and unique local markets; inefficient, corrupt markets and the formation of a digital platform for the regulation of Labor institutionstiradi (Lehdonvirta 2016). 7

The digital economy model is a driver of economic growth and a force that has a profound impact on labor activity and business. Almost 1 percent of labor resources in developing countries, around 4 percent in countries such as Europe, North America, Australia, Canada, South Korea, New

⁵Садыков А.М. Новая стратегия развития Узбекистана. – Ташкент, «Узбекистан», 2019, 536 с.

⁶ RUMANA BUKHT & RICHARD HEEKS. Defining, Conceptualizing and Measuring the Digital Economy. 2017. Paper No. 68. <https://diodeweb.files.wordpress.com/2017/08/diwkppr68-diode.pdf>

⁷Rumana Bukht & Richard Heeks. Defining, Conceptualising and Measuring the Digital Economy. 2017. Paper No. 68.

Zealand, Singapore, Israel, 2.5 percent of the world's labor force is shifted to the digital sector (it/ICT) (OECD 2014, World Bank 2016). 8

It should be noted that entrepreneurial activity is of particular importance in reducing the unemployment rate. The more cases of increasing unemployment rate in the society are observed, the more the demand for reducing unemployment also increases. One of the important areas of increasing employment in this process is self-employment. An increase in self-employed leads to a decrease in unemployment. This is called Schumpeter effect. 9 At the time of unemployment increase, unemployment can be considered as a result of the act of reduction the incentive of people to self-employment, and the tendency to increase as a result of the act of "refugee effect".

The tax-budgetary system of the country, in turn, affects both self-employed and those who carry out entrepreneurial activities. In addition, the level of education coverage of the population has an intensive impact on the self-employment of the population, the formation of entrepreneurial abilities and economic growth. The potential of an entrepreneur with a high level of awareness to develop a firm's activities will be high. A highly qualified entrepreneur will be able to comprehensively assess the analysis of the market situation and forecast market demand, changes in the conjuncture.

In the course of the study, multi-factor regression equation was used. Table 1 lists the composition of the factors affecting the analysis process.

Table 1.

The essence of the main variables.

Conditional sign	Variables	Essence
Y	Economic growth	Phase an increase of GDP
I	Investments	Investment to capital
HC	Human capital	Expender to education
DE	Digital economy	An increase of return from the net
X _n	International integration	Foreign trade turnover
EI/δ	Business indicator	Number of individual entrepreneurs and self-employed
UPL	Unemployment	Number of unemployed between the ages of 16-60

We will first analyze the correlation between the factors put forward in the two hypotheses.

Hypothesis 1 (h 1) digital economy, investment and human capital, exports have a positive impact on economic growth.

Hypothesis 2 (h2) entrepreneurship has a positive impact on economic growth.

⁸Mark Graham. Digital labour and development: impacts of global digital labour platforms and the gig economy on worker livelihoods. 2017, Vol. 23(2) 135–162.

⁹Farrokh Emami-Langroodi. Schumpeter's Theory of Economic Development: A Study of the Creative Destruction and Entrepreneurship Effects on the Economic Growth. 2017.

As a result, these two hypotheses give rise to the possibility of a comparative analysis of the results of the analysis.

Since the linear function properties of this $F=f(DE, I, HC, Exp)$ do not fully manifest the process under study, the function natural logarithmic was transferred.

$$\ln(y)_{it} = \beta_0 + \beta_1 \ln(DE)_{it} + \beta_2 \ln(I)_{it} + \beta_3 \ln(HC)_{it} + \beta_4 \ln(Exp)_{it} + \varepsilon_{it} \quad (1)$$

$\ln(y)_{it}$ - natural logarithmic value of the causal factor;

$\ln(DE)$, $\ln(I)$, $\ln(HC)$, $\ln(Exp)$ - natural logarithmic values of the affected factors;

β_0, \dots, β_n - indicators of fastness;

it - timeframe rows.

Here (y) the rate of growth of GDP is a causal factor. Factors influencing were the digital economy (DE), investment (I), Human Capital (HC), export (Exp).

(H1) according to the hypothesis, the growth rate of the digital economy, investment, human capital and exports will have a positive effect on economic growth. (H2) hypothesis that the rate of growth of self-employment and entrepreneurial activity according to the hypothesis has a positive effect on economic growth.

Table 2.

In 2010-2020 years, the volume of GDP, the amount of capital invested and the costs allocated to education, Internet costs, the growth rate of exports, %

Year	GDP (Y)	Investment to capital (K)	Expenditure to education (HC)	Return from the net (DE)	Export (Exp)	ln(Y)	ln(K)	ln(HC)	ln(DE)	ln(Exp)
2010	107,3	104,2	107,4	163,6	110,6	4,676	4,646	4,677	5,097	4,706
2011	107,8	102,6	100,3	133,3	115,3	4,680	4,631	4,608	4,893	4,748
2012	107,4	110,6	102,1	119,4	90,5	4,677	4,706	4,626	4,782	4,505
2013	107,6	111,3	100,0	125,6	105,3	4,678	4,712	4,605	4,833	4,657
2014	107,2	109,8	99,7	129,6	94,6	4,675	4,699	4,602	4,864	4,550
2015	107,4	109,4	98,5	112,9	92,3	4,677	4,695	4,590	4,727	4,525
2016	106,1	104,1	100,9	107,6	96,7	4,664	4,645	4,614	4,678	4,572
2017	104,5	119,4	95,9	125,9	103,8	4,649	4,782	4,563	4,835	4,642
2018	105,4	129,9	79,9	107,0	111,4	4,658	4,867	4,381	4,673	4,713
2019	105,8	138,1	109,7	113,5	124,8	4,662	4,928	4,698	4,732	4,827
2020	101,6	91,8	102,5	94,2	86,6	4,621	4,520	4,630	4,545	4,461

Table 2 (H1) shows the results of the hypothesis. In 2010-2020, the economic growth of Uzbekistan was directly influenced by the growth of the digital economy, investments, human capital and the growth rate of exports. Of the factors affecting, the dependence of the growth rate of exports on the growth rate of GDP is high compared to the remaining factors ($p=0.668$).

Traditional economic growth factors the effect of innovative economic growth factors on economic growth is not significant (p is approaching zero) as a result of the application of the process of providing economic growth to the evasion. In the future, as a result of the implementation of the strategic goals and programs set in the country, their level of tolerance increases (Table 3).

Table 3.

The results of the link between factors affecting innovation economic growth

Predictor	Coefficient	Estimate	Standard Error	t-statistic	p-value
Constant	β_0	3.702	12.278	0.302	0.767
I	β_1	0.298	0.147	2.03	0.058
HC	β_2	0.577	0.1	5.76	0.001
DE	β_3	0.083	0.06	1.378	0.186
Exp	β_4	0.067	0.153	0.436	0.668

The development of human capital in our republic is constantly being paid attention by the state. Only in 2020 year in the structure of the state budget expenditures amounted to 50.4 percent of the social expenditure, in which the expenditure on education is 22.9 percent of the total budget expenditure.

Table 4.

The impact of entrepreneurial activity and unemployment on the growth rate of GDP in 2010-2020 years

Year	Growth rate GDP	The growth rate of the share of entrepreneurship in the structure of the GDP	Increase in unemployment rate
2010	107,3	104,2	107,4
2011	107,8	102,6	100,3
2012	107,4	110,6	102,1

2013	107,6	111,3	100,0
2014	107,2	109,8	99,7
2015	107,4	109,4	98,5
2016	106,1	104,1	100,9
2017	104,5	119,4	95,9
2018	105,4	129,9	79,9
2019	105,8	138,1	109,7
2020	101,6	91,8	102,5

According to Table 4, self-employment and entrepreneurial activity had an impact on economic growth in 2010-2020 years. However, the contribution of entrepreneurship to economic growth compared to the hypothesis of (H2) hypothesis (H1) is small (table 5).the contribution of exports to economic growth is small (table 5).

Table 5.

The results of the regression equation on the dependence of the growth of GDP on the level of entrepreneurial activity and unemployment

Predictor	Coefficient	Estimate	Standard Error	t-statistic	p-value
Constant	β_0	6.73	4.45	1.51	0.15
The growth rate of the share of entrepreneurship in the structure of the GDP(EI/δ)	β_1	0.1	0	-0.8	0.43
Increase in unemployment rate (UPL)	β_2	0.9	0.05	17.08	0.1

Qualification, based on the increase in knowledge, human capital has a beneficial effect on economic development. The introduction of opportunities for self-employed people to end unemployment has a positive effect. The increase in the share of self-employment increases entrepreneurial activity. The level of education coverage of the population has an intensive impact on the self-employment of the population, the formation of entrepreneurial abilities and economic growth. The potential of an entrepreneur with a high level of awareness to develop a firm's activities will be high.

Summary and suggestions. During the period studied, economic growth was highly influenced by the growth rate of exports. In the coming period, the impact of innovation factors on economic growth will increase, that is, the impact of non-economic factors on economic growth will increase.

This increase in the quality of human capital leads to an increase in effective employment. As a result, sustainable and universal economic growth will occur in the country on the basis of effective employment promotion and decent employment of men and women. Ability moves toward decent work. In the modern labor market, the demand for middle and high-skilled personnel increases.

According to the results of the impact of the above innovative economic growth factors on the growth rate of GDP, in ensuring employment of labor resources and sustainable inclusive economic growth, it is necessary to:

– Further expansion of the increase in labor productivity in employment types in areas with high service and science productivity. Labor productivity has a positive impact on inclusive and sustainable development.

– The use of 4-Industrial evolution achievements in reducing the incidence of employment in socially vulnerable employment and dangerous Labour. The inclusion development had the opposite effect on the health of poor workers. It requires the transfer of inefficient employment to productive employment. It is necessary for poor workers to make significant profit from their labor productivity evazi-formed income.

– To improve the legal means of sorting out the inconsistencies that arise in the relations of emigration. Effective employment is considered difficult to predict when the migration flow is high. Therefore, in several scenarios, the development of a forecast is considered optimal, including when the net migration is zero, or when the inflow of foreign money flows is flat.

– Attention should be paid to the environmental component of sustainable development and re-industrialization on the basis of subsidizing traditional agriculture with high employment and attracting financial market assets.

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