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INVESTMENT POLICY EFFICIENCY AND POINTS OF ECONOMIC GROWTH: CASE OF REPUBLIC OF CRIMEA

Andrey Vershitsky [1*]**, Elena Vershitskaya** [2]**, Anton Salabutin** [1]

[1] *Department of State and Municipal Management, V.I. Vernadsky Crimean Federal University, RUSSIA.*
[2] *Department of Management, V.I. Vernadsky Crimean Federal University, RUSSIA.*

A R T I C L E I N F O	A B S T R A C T
	The article is devoted to investment policy on a regional level in the Russian Federation, the multiplicative effect of investment into different economic activity types. The authors built econometric models for each industry, which allow determining the impact of investment volumes in this industry on GRP and tax revenues of the Republic of Crimea. Investments are made in (1) transport and communications, (2) education, (3) industry; however, the greatest multiplicative effect is demonstrated by (1) construction industry, (2) hotels & restaurants, and (3) education. The main results can be used by state and regional authority in the development and implementation of effective investment policies. **Disciplinary**: Management and Economic Sciences; Investment Policy. ©2020 INT TRANS J ENG MANAG SCI TECH.

1. INTRODUCTION

Investing is the basis for a country's long-term economic growth. This work confirmed several indicators prescribed in the National Goals of the Russian Federation. After the 1990's Reforms, investments in fixed assets were sufficiently lower compared to the previous level; despite the further fixed assets' growth, Russia's investment volume in fixed assets was in 2018 by 26.4% less compared to the 1990's levels.

In recent years, there has been a lack of investment volumes and a foreign ownership decrease in investment structure in fixed assets. According to the Rating of Investment Attractiveness of Russian Regions in 2018, out of 85 regions of Russia, only 24 regions have high investment attractiveness and 16 regions have deteriorated their positions. That fact proves an ineffective regional investment policy. The rating recorded a three-fold gap between regions with minimum and maximum levels of investment risk, and this gap has increased in the last 2 years. Thus, the current main macroeconomic goals in the form of entering the top five largest economies in the world with economic growth rates

higher than the global ones without investment policy improvement, in particular, regional investment policy, will fail.

This study suggest that not all investments have a similar positive impact on economic and investment processes since capital investments can be inefficient if directed to unpromising sectors and production spheres. Therefore, investment effectiveness in this study is determined by the presence and magnitude of the investment multiplier. The investment multiplier is considered as multiple increments of income or gross output as investment results in the economy and is a consequence of effective investment policy. It is important to understand the impact of the investment process on economic growth at the regional level. As an example in this study, the Republic of Crimea has been considered.

2. LITERATURE REVIEW

Regional development issues are difficult to be solved without effective state regional investment policy. At the regional level, there is a lack of clear investment policy of the state, which is manifested in the absence of a targeted impact on the economic development of regions, taking into account their specifics. Herein, the importance of federal targeted programs (for the regions' socio-economic development as a state regulation instrument) used for investments' attraction and development in certain regions is still negligible. Therefore, in the current situation, taking into account regional specifics, the formation issues and implementation of state investment policy are of greater importance. The process includes rethinking the ways of investment project support, programs, and determining the improvement of regional investment policy, from the efficiency standpoint, to identify regional growth points characterized by the investment multiplier.

The concept "multiplicative effect" was introduced into economics in the 30s of the 20th century, when economists managed to show that investing in certain sectors of the economy, regardless of their immediate profitability, can lead to investment's multiplication (augmenting), employment and revenues increase many times exceeding the initial investment costs (up to a geometric progression) (Kabanov et al., 2018). One of the first examples of the multiplicative effect use was the project of integrated development of the Tennessee River valley in the USA in 1930-1940 when the construction of cascades of hydroelectric power plants accelerated economic growth (Slutsky et al., 2013). The multiplicative effect can occur in any sphere when converting any kind of cost brings a more significant ("multiplied") quantitative result.

The scientific basis of the multiplicative effect was laid by the famous economist Richard Ferdinand Kahn (1931). According to Kahn (1931), the multiplier shows an increase in total employment as a result of the increase in investment volume in primary employment by the industries. Also, along with Kahn's multiplier, there is a multiplier of J.M. Keynes, who considered income as multiplicated quantity. According to Keynes's theory of income increase, including national income is solely a consequence of the investment process and may provide for employment growth (Keynes, 1936).

Since the multiplicative effect in our study is considered in the context of territorial development and is aimed at economic growth, it seems reasonable to analyze (Table 1) foreign and domestic research methods and models of capital investments impact on the growth of national and regional income (Gadzhiev, 2009).

Table 1: Models of capital investments impact on the gross product

Model	Description
Pred Model (1966)	The model assumes that export base volume and income share spent within a region should be increasing functions of the regional economy's size.
Fujita, Krugman & Mori Model (1995, 1997)	The model considers the economy as part of several industrial sectors that differ in the magnitude of transport costs and scale effects.
Hall and Jones Model (1999)	The model includes traditional production factors of growth and social, institutional, political factors, as well as geographical position of countries, which stimulate capital accumulation, encourages learning, new technologies introduction, and increase in quality.
Model of cyclic movement factors (Venables, 2010)	The factors' cyclical movement model shows a cyclic process leading to economic differentiation if there are intermediate goods produced on a large scale, taking into account transport costs.
Fiani Model (1984)	The model proves that the effective development of the regional economy is achieved as a result of capital investments in production facilities that are least dependent on the provision of services.
Spatial lag model of regional growth (Long, 2003)	The econometric model of spatial lags of regional growth confirms the hypothesis of the crucial role of spatial lags or the effects of the mutual influence of economic factors in China's regional growth
Tinbergen and Bos Model (1962)	The model formalizes investment impact on regional economic development, including the innovative one.

The concept of multiplicative effect is a basis for numerous government programs to stimulate economic growth based on investments. However, capital will be a source of growth only if there is where to invest to and any investment opportunities, otherwise the de-industrialization of a country or a region is possible (experience of Africa, Spain). For entrepreneurship, poor countries suffer from a lack of investment, because they have few profitable investment opportunities due to low purchasing power and high unemployment. The resulting investment should be used profitably otherwise the system will collapse and cause a reverse effect. It makes no sense to increase investment volume when there is no demand and investment effect; it is an unsuccessful use of capital. The ability to attract investment in different types of economic activity at any moment varies greatly, so it is important to realize the most effective investment areas to ensure the best result (Reinert, 2011).

In this regard, it is necessary to determine the effectiveness of investment policy (efficiency or inefficiency of using investment funds) and to identify points of economic growth that ensure maximum multiplicative effect through economic and mathematical modeling.

3. METHOD

Since at regional level the main generalizing indicator that characterizes economic development level is the gross regional product (GRP), then investment efficiency, that is determined by investment multiplier, we should understand the multiple increments of gross output as a result of investments in the economy; that is a consequence of successful investment policy activity. The growth of gross domestic product is influenced by many factors. However, this study addresses the thesis that the increment in gross output is a consequence of the investment process. Therefore, it is rational to use the technique based on the integration of the Cobb-Douglas production function, which reflects the dependence of production on its production factors - labor costs (number of workers) and capital (investment) (Naumov, 2017). We take Keynes's theory as a basis, in which, as standard, the multiplier shows the role of investment volumes in income growth, in our case it is GRP. In its turn,

the assessment of the dependence of GRP on investment will be implemented using the construction of econometric models, in particular regression models, which are a universal intellectual data mining tool. The obtained characteristics of the model will allow us to determine its significance and adequacy, as well as to identify the accuracy of the result obtained for an approximate assessment of the factors impact for the study's key indicator. An important aspect of using this methodology will be the ability to predict the behavior of an economic system depending on changes in certain factors as a consequence of the results obtained (Poriadin, 2011). Therefore, to determine the effectiveness or inefficiency of the use of investment funds, it is appropriate to perform economic and mathematical modeling based on official statistical data. Selected data on investment volume and GRP of the Republic of Crimea are presented in Table 2.

Table 2: Volume of investments and GRP of the Republic of Crimea in 2014-2017 (Data from Office of the Federal State Statistics Service of the Republic of Crimea and the city of Sevastopol)

Year	The volume of investments, mln. Rub	GRP, mln. Rub
2014	26448,1	189439,2
2015	47582,2	265970,6
2016	74795,2	327739,3
2017	196193,0	359110,4

Based on the data in Table 2, we identify the relationship between the variables and prove the impact of investments on GRP as a result of determining the determination coefficient (Table 3). The model in which the initial indicators are investigated is represented in general form by the formula:

$$Y = a_0 + a_1 \cdot x_1 + \ldots + a_k \cdot x_k \tag{1},$$

where Y – described parameter, a_i – regression coefficients, x_i – factors that influence, k – a quantity of model's factors.

Table 3: Correlation coefficients between GRP and the volume of investments of the Republic of Crimea

Region	Correlation coefficient value	Determination coefficient value
The Republic of Crimea	0,828	0,685

Using the correlation analysis, the relationship which is 82.8%, between the investment volume in fixed assets and the GRP of the Republic of Crimea was revealed. Determination coefficient ($R^2 = 0,685$) shows the good quality of the regression model obtained (> 0.5).

The linear regression, based on which the calculations of the change in GRP from the volume of investments in fixed assets of the Republic of Crimea were carried out, is represented by the equation:

$$Y = 215180,4724 - 0,816007288 \cdot X_1 \tag{2}.$$

Variable coefficient $0,816 \cdot X_1$ (investment in fixed assets), equal to 0.816 means that according to the available observations GRP may increase by about 0.816 million rubles when the investment volume in fixed assets is changed by 1 million rubles. Despite the result of the shown relationship is due to the growth of budget investments (4 times in 2017) aimed at lifting infrastructure restrictions in accordance with stage I of the implementation of the Strategy for Socio-Economic Development of

the Republic of Crimea until 2030, which affected the quality of the investment multiplier. The findings suggest that investment funds use is inefficient.

At the same time, the constructed linear regression Equation (2) allows us to forecast the GRP development depending on the growth of the volume of investments in fixed assets (Figure 1).
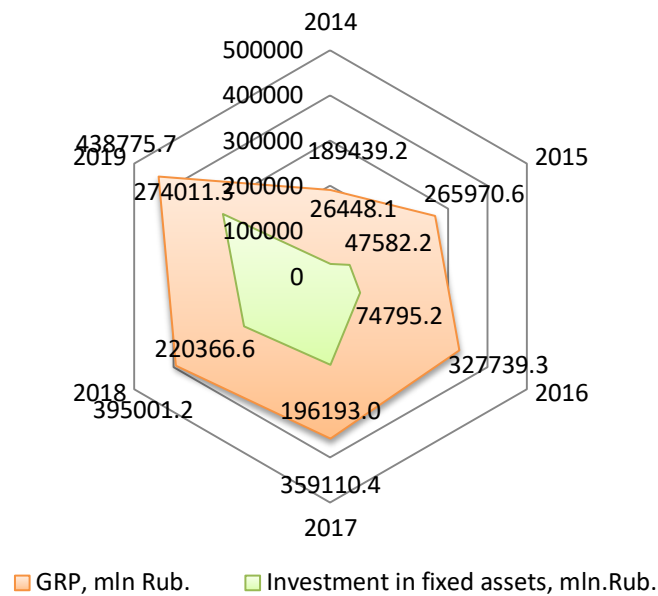
Figure 1: Values of the GRP depending on the growth of investment in fixed assets of the Republic of Crimea, mln. Rub.

Thus, there is a positive trend of gradual dew of both the GRP and the investment volume in fixed assets. Ensuring a favorable investment climate in the region, developing an investment strategy, and creating an affordable infrastructure to accommodate industrial and other investor facilities are important directions for executive authorities of the Republic of Crimea. At present, the Republic of Crimea cannot be attributed to the leaders in this field. The strategic goal of creating an investment-attractive economy in the region is fixed in the strategic planning document defining the priorities and development vector, i.e. the Law of the Republic of Crimea "On the strategy of the social and economic development of the Republic of Crimea until 2030". According to the Strategy, investments are an important tool to accelerate socio-economic development, increase the competitiveness of the economy and the standard of living; the Republic of Crimea 2030 is a territory of innovations with advanced rates of socio-economic development, which has formed new quality of living standards for the population and created the best business conditions in Russia. Strategy based on the Three Wins concept - on the victory in the struggle: for human capital, for innovations, and an investor. The target indicator of the criterion of victory in the struggle for the investor is the volume of investments in fixed capital. In the Republic of Crimea, three specialized organizations have been established for attracting investment and working with investors (Table 5). The success of a regional investment policy largely depends on the investment incentives and advantages that are provided to potential investors by regional legislation. Thus, the investment attraction into the economy of the region is realized by providing the most favorable conditions for doing business, and that ensures economic growth (Vershitsky, Salabutin, 2017).

Table 5: Basic activity of the main specialized organizations to attract investment in the Republic of Crimea

Crimea State Autonomous Institution "Center for Investment and Regional Development"	JSC "Corporation of Development of the Republic of Crimea "	State Autonomous Enterprise Business and Cultural centre of the Republic of Crimea
• implementation of investment standards;		
• support of investment projects being implemented and planned for implementation in the Republic of Crimea;		
• assistance in the creation and development of industrial parks;		
• providing consulting support on the selection of a public-private partnership scheme;		
• participation in the implementation of investment projects on the principles of public-private partnership;		
• management and participation in the management of investment projects;		
• organization and holding festivals, exhibitions, presentations, conferences, forums, and other mass cultural, educational and scientific and practical events		

The success of a regional investment policy largely depends on the investment incentives and advantages that are provided to potential investors by regional legislation. Thus, investment attraction into the economy of the region is realized by providing the most favorable conditions for doing business, and that ensures economic growth (Vershitsky, Salabutin, 2017). Therefore, in accordance with the Federal Law of the Russian Federation of November 29, 2014, No. 377-FZ "On the Development of the Republic of Crimea and the Federal City of Sevastopol and the Free Economic Zone in the Territories of the Republic of Crimea and the Federal City of Sevastopol", a free economic zone for 25 years was established and provides a special regime for business and other activity, as well as the application of the customs procedure of the free customs zone.

The Republic of Crimea is characterized as a unique and strategically important subject of the Russian Federation, a major tourist and sanatorium and resort center of Russia. Favorable climatic conditions and special geopolitical position of the Republic of Crimea attract people to the region for rest, treatment, and permanent residence from other regions of Russia and various countries of the world. Distinctive features of the Republic of Crimea, based on which the economy of the peninsula is formed, are the coastal position of the region, fertile soils, warm climate, natural and recreational resources, a special mode of business and other activities, as well as the application of customs procedures of the free customs zone as a result of the creation of the Free Economic Zone. The Republic also produces gas, oil, gas condensate, iron ore, mineral salts, building materials, and other minerals. Due to the established factors, the basic industries of the region are food industry, production of building materials, engineering, agriculture, as well as the resort sector. The economy of the Republic of Crimea is diversified; there are industry sectors, agriculture, and services, changes here directly depend on investment. The Republic of Crimea is one of the most invested regions of the Southern Federal District and is second only to the Krasnodar Region (Table 6).

Table 6: Investment in the Southern Federal District in 2014-2018

Southern Federal District	The volume of investments by year, mln. Rub					Position
	2014	2015	2016	2017	2018	
Republic of Adygea	17155	15 756	19134	20845	31577	7
Republic of Kalmykia	22609	16608	9139	11223	12973	8
Republic of Crimea	26447	47582	74795	196193	296019	2
Krasnodar Region	750236	586903	435095	503243	481141	1
Astrakhan Region	116856	113169	117999	146660	106674	5
Volgograd Region	182798	200191	183642	191710	184465	4
Rostov Region	264173	309436	294481	323903	252850	3
Sevastopol	3385	6558	18547	49512	40574	6

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However, at the moment, the Republic of Crimea cannot be considered to be a leader in ensuring a favorable investment climate, developing an investment strategy, and creating an affordable infrastructure for locating industrial facilities for investors.

In the Rating of investment attractiveness of Russian regions, the rank of the indicator of the region's potential in 2018 is 29, the risk rank is 69; according to the rating that means that the Republic of Crimea has a reduced potential and moderate risk due to obvious management failure, expressed in the inability to use effectively budget funds and involve local business in implementing large projects (Table 7).

Table 7: Changes in risk and potential assessments of the Republic of Crimea among the regions of the Russian Federation in 2015-2018 (according to Rating of investment attractiveness of Russian regions)

Indicator Years	2015	2016	2017	2018
Rank of risk	79	66	71	69
Rank of potential	39	28	28	29

Reduced investment potential and moderate risks, along with negative investment trends, consisting in a low proportion of foreign investment, which decreased by 4.8 times in 2014-2017, as well as a significant predominance of budget funds in the structure of investments in fixed capital in 2018 (68,7%), determine the need to regulate the investment policy of the Republic of Crimea, the search for economic growth points.

Before we proceed to the definition of points of economic growth, which are understood as investments that provide the maximum multiplicative effect, we should pay attention to changes in the investment structure in the period of Crimea's being a part of Ukraine and after it enters into the Russian Federation. As part of Ukraine in Crimea in 2013, the main types of investments were bank loans (37.4%), funds of enterprises (27.1%), and public funds for the construction of housing (23.7%). At the same time, the share of state and local budgets was 5.8%, foreign investment - 3.0%. The total volume of capital investments in Crimea in 2013 was 60.4 billion rubles (14% less than in 2012, 56.3% more than in 2014, and 21.3% more than in 2015), most of which were aimed at industrial development (50.1%), construction (28.0%), hotels and restaurants activities (6.2%).
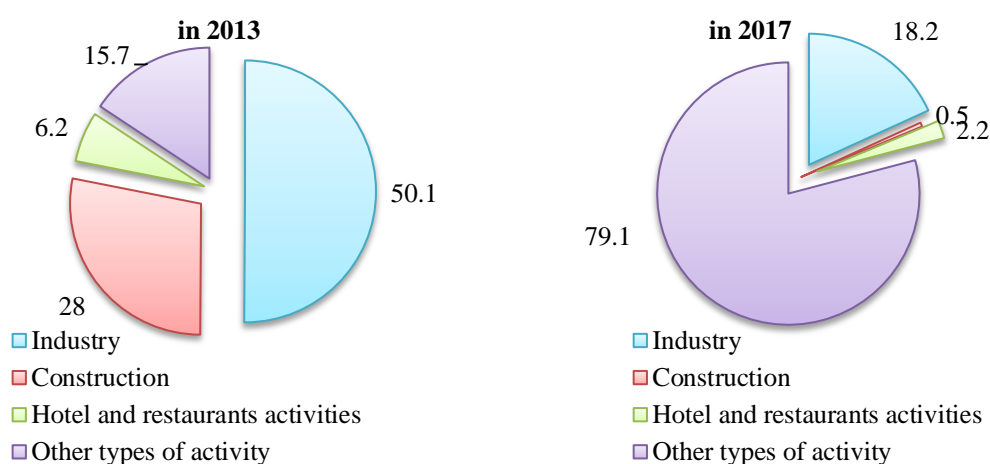
Figure 2: Changes in investments share (%).

In 2017 the investments volume in the Russia increased 3.25 times, the main investments types were mainly budget funds (69.0%), the share of foreign investments 1.5%, investments in the private sector decreased by 17.3%, the investment structure also changed, since the bulk of investments was directed to transport and communications (63.4%) and education (11.9%) (Figure 2).

Based on the abovementioned facts, changes in the investment structure from the moment Crimea entered the Russian Federation is accompanied by a reduction in investment share in the industry, construction, and hotels and restaurants activities; that can lead to inefficiency in the use of investment funds, the correctness of the proposed thesis is going to be proved when identifying points of economic growth.

4. RESULT AND DISCUSSION

The investment volume affects the economic growth of territory, while the feasibility of investing is determined by the stability of the economic system and, as a result, by the presence of an investment (multiplicative) effect due to the investment process. In its turn, priority sectors of the economy should be based on calculations of economic and tax efficiency indicators of investments, which is justified by obtaining different economic effects. A private investor is interested in investing in industries and projects that give the biggest commercial result, i.e. - profit, while territorial authorities are not only interested in economic results and a direct effect arising from the implementation of the investment project, but also in indirect consequence, which is sometimes outside the project. That is, an increase in the budget income is accompanied by both an expansion of the taxable base and an increase in the number of jobs in the region, which will solve employment problems and increase tax revenues. For the regional level authorities, this result is very important, taking into account the fact that Crimea is not able to provide the regional budget with its income, since the budget income mostly consists of subsidies (74.4%) in the structure of budget income in 2017 (in 2018 – 77.1%), along with this, the peninsula is in the top 5 regions in as for the subsidies received in 2018.

Therefore, we will identify which industries have multiplicative opportunities and have a predisposition to multiplicative effects, which of them affect income, in particular tax revenues and GRP. Calculations will be based on the data of the Office of the Federal State Statistics Service of the Republic of Crimea and the city of Sevastopol.

The branches correspond to Russian Classification of Economic Activity's Types (RCEA) and are numbered as follows: 1 - agriculture, hunting, and forestry; 2 - fishing, fish farming; 3 - mining; 4 - manufacturing; 5 - production and distribution of electricity, gas, and water; 6 - construction; 7 - wholesale and retail trade; repair of motor vehicles, motorcycles, household goods, and personal items; 8 - hotels and restaurants; 9 - transport and communications; 10 - financial activity; 11 - real estate transactions, rent, and services provision; 12 - public administration and military security; compulsory social security; 13 - education; 14 - health and social services; 15 - provision of other utilities, social and personal services.

For each industry, a linear regression model was built. It shows the impact of the investment volume in this industry on GRP and tax revenues of the Republic of Crimea (Table 8).

Table 8: The impact of investment in fixed capital on GRP and tax revenues by industry.

Branch number	Model	Formula / Model Number	R^2
Models of relationships between GRP and investment in the industry by type of economic activity			
1	$Y = 659854.0654 - 165.043242 \cdot X_1$	(3)	0.085
2	–		-
3	–		-
4	$Y = 208121.2437 + 21.74833085 \cdot X_1$	(4)	0.392
5	$Y = 164104.3089 + 12.6921689 \cdot X_1$	(5)	0.794
6	$Y = 191446.296 + 178.0020407 \cdot X_1$	(6)	0.975
7	$Y = 99349.51748 + 199.4487844 \cdot X_1$	(7)	0.225
8	$Y = -34948.78329 + 93.40609031 \cdot X_1$	(8)	0.924
9	$Y = 253666.29 + 0.88034103 \cdot X_1$	(9)	0.479
10	$Y = 204569.4557 + 69.01156163 \cdot X_1$	(10)	0.573
11	$Y = 170998.7606 + 32.13770969 \cdot X_1$	(11)	0.773
12	$Y = 69773.56529 + 42.12740436 \cdot X_1$	(12)	0.955
13	$Y = 222909.2209 + 6.522469166 \cdot X_1$	(13)	0.687
14	$Y = 79327.84344 + 33.70161477 \cdot X_1$	(14)	0.885
15	$Y = 228242.6692 + 25.81296487 \cdot X_1$	(15)	0.240
Models of relationships between tax revenues and investment in the industry by type of economic activity			
1	$Y = 41506.39439 - 4.265461131 \cdot X_1$	(16)	0.001
2	–		-
3	–		-
4	$Y = 22976.48128 + 2.487178443 \cdot X_1$	(17)	0.110
5	$Y = 10353.42026 + 2.244542528 \cdot X_1$	(18)	0.532
6	$Y = 12269.17374 + 37.00028606 \cdot X_1$	(19)	0.900
7	$Y = 33531.48169 - 0.494635938 \cdot X_1$	(20)	0.025
8	$Y - 36093.19364 + 19.79549707 \cdot X_1$	(21)	0.889
9	$Y = 22939.29389 + 0.245451653 \cdot X_1$	(22)	0.797
10	$Y = 20640.67932 + 9.536399848 \cdot X_1$	(23)	0.234
11	$Y = 13286.93379 + 5.202502547 \cdot X_1$	(24)	0.434
12	$Y = -11588.87872 + 8.476959544 \cdot X_1$	(25)	0.829
13	$Y = 16176.17889 + 1.629886776 \cdot X_1$	(26)	0.920
14	$Y = -4810.537078 + 5.98800753 \cdot X_1$	(27)	0.598
15	$Y = 26723.67234 + 2.300833152 \cdot X_1$	(28)	0.041

The coefficients of the presented models indicate that investments in which industries are not randomly related to and they affect:

1) gross regional product:

– construction ($R^2 = 0.975$);

– hotels and restaurants ($R^2 = 0.924$);

– public administration and military security; compulsory social security ($R^2 = 0.955$).

2) tax revenues of the region:

– education ($R^2 = 0.920$).

Meanwhile, public administration and military security; compulsory social security is the activity of the state and local government bodies.

As a result, while determining the points of economic growth of the region and its industries development, this regulatory function of state power and local self-government will not be included in the further analysis; in turn, the importance of the indicator and investment in it will be taken as a fact.

So, investments in construction, hotels, and restaurant activity are statistically significant investments that have a predominant effect on GRP; investments in education and construction are investments that influence tax revenues of the region. The built regression models (6), (8), and (26) demonstrate the relationship between the specified time series.

The normalized R-squared means the effect of the R-squared adjustment on the value of the coefficient of determination. The high rate of the normalized R-squared indicates good model quality. Therefore, it is necessary to check the regression equation value and the obtained regression coefficients at the level $\alpha = 0,05$. For this, the observed value of F-statistics is calculated:

$$F_{obsv} = \frac{\frac{Q_R}{k}}{\frac{Q_{rst}}{n-k-1}} \qquad (29),$$

where F_{obsv} - observed value of F-statistics, Q_R - the sum of deviation squares due to regression, which characterizes the impact of the explanatory variable, Q_{rst} - the sum of deviation squares relative to the regression plane, which characterizes the effect of the rest disregarded in the model or random factors. Table 9 shows the results of the analysis of variance, the critical value of F-statistics, and the observed value of F-statistics.

Table 9: Significance of models (6), (8), and (26) at the level of F-statistics.

Model Number	Q_R	Q_{rst}	F_{cr}	F_{obsv}
(6)	16390913620,0	420793758,6	18,5	77.9
(8)	15532229119,7	1279478260,8	18,5	24.3
(26)	721575845,5	63133826,09	18,5	22.8

Since the observed value of F-statistics exceeds its critical value $F_{obsv} > F_{cr}$ for equations (6), (8) and (26), the hypothesis about the equality of the coefficients vector is rejected with an error probability equal to $\alpha = 0,05$, what determines the non-random nature of the dependence and allows to determine the measure of the sensitivity of one variable to change another one. Based on which we will determine the change in GRP from investment volume in the construction industry, as well as hotels and restaurant activity and tax revenues from investment volume in education using the coefficient of arc elasticity. Arc elasticity shows how much percent the average Y index changes from its average value when the factor X changes by 1% of its average value. The average (total) coefficient of elasticity is determined by the formula:

$$\varepsilon = f'(x) \cdot \frac{\bar{x}}{\bar{y}} \qquad (30),$$

where ε – coefficient of elasticity, $f'(x)$ – variable X_1 in the equation of a straight line, $\bar{x}$ – average factor of X_1, $\bar{y}$ – average of Y.

Then we define the average (total) coefficient of elasticity for:

    a) From Equation (6)

$$\varepsilon = 178.00 \cdot \frac{528.75}{285564.87} = 0.33\%.$$

    b) From Equation (8)

$$\varepsilon = 93.41 \cdot \frac{3431.40}{285564.87} = 1.12\%.$$

c) From Equation (26)

$$\varepsilon = 1.63 \cdot \frac{9606.13}{31833.08} = 0.49\% \quad (33).$$

So, we will comment on the values of the obtained elasticities:

- when increasing investment in construction by 1% of its average value of the region's GRP, it will increase on average by 0.33%;

- increasing investment in hotels and restaurants activities by 1% of its average value causes an increase in the region's GRP by an average of 1.12%;

- when increasing investment in education by 1% of its average value, tax revenues in the region will increase on average by 0.49%.

In the modern conditions of the Republic of Crimea, it should be noted that one of the most urgent tasks of state bodies is to justify investment priorities, the selection of which involves assessing effectiveness level of investment policy, which in its generally accepted statement is defined as the ratio of investment to the resulting socio-economic result, including and tax revenues.

5. CONCLUSION

The results of this study showed that investments in the Republic of Crimea are made in (1) transport and communications, (2) education, (3) industry; however, the greatest multiplicative effect is demonstrated by (1) construction industry, (2) hotels & restaurants and (3) education. The study also proves that certain points of economic growth can allow regional authorities to increase management decision effectiveness in determining priorities and subsequent implementation of investment policy, which are of particular importance in the context of inefficient investment funds use, along with negative investment trends.

Highlighting investment-attractive sectors of the region, our study shows the vector for taking actions and the direction of using investment funds and also specifies the importance of cash inflows into the priority sectors to create an economic basis for stability and welfare. However, the data that is being used by authority bodies traditionally do not take into account the shadow economy factor that has a direct impact on the result of the work (Stepanova et al., 2018).

From the main results, certain points of economic growth can allow governments to improve the efficiency of management decisions in determining priorities and the use of investment funds, as well as increase the investment attractiveness of the region, improve the investment climate and attract foreign investment, which can lead to the sustainable development of the Republic of Crimea.

6. AVAILABILITY OF DATA AND MATERIAL

Data can be made available by contacting the corresponding authors

7. REFERENCES

Fiani, R. (1984). Increasing Returns, Non-Traded Inputs, and Regional Development. *Economic Journal*, 94(374), 308-323.

Fujita, M., Krugman P. (1995) When is the economy monocentric: von Thunen and Chambertin unified. *Regional Science and Urban Economics*. Vol. 25. Issue 4. 505-528.

Fujita, M., Mori, T. (1997). Structural stability and evolution of urban systems. *Regional Science and Urban Economics*. 27(4-5), 399-442

Gadzhiev, Yu. A. (2009). Foreign Theories of Regional Economic Growth and Development. *Economy of the Region*, 2(18), 45-62.

Hall, R., Jones, Ch. (1999). Why Do Some Countries Produce So Much More Output per Woker than Others?. *Quarterly Journal of Economics*,   114(1), 83-116.

Kabanov, V. N., Zhilnikov A. Yu., Zablotskaya T. Yu. (2018) Financial guarantees of the regional budget - potential for growth of investments in fixed assets. *Economy of the region*. № 1. 315-325.

Kahn, R. F. (1931) Relation of Home Investment to Unemployment. *Economic Journal*, 41, 173-198.

Keynes, J. M. (1936) General Theory of Interest, Interest and Money. Reprinted by Westminster: Prometheus Books. 403 p.

Long, Gen Ying (2003) Understanding China's Recent Growth Experience: A Spatial Econometric Perspective. *The Annals of Regional Science.* 37(4). 613-628.

Naumov, I. V. (2017) Problems of forecasting gross output in the regional socio-economic system. *Journal of Economic Theory*. № 4. 68-83.

Poriadin, V. S. (2011) Analysis of existing methods for assessing the economic efficiency of enterprises. *Bulletin of Leningrad State University A. S. Pushkin*. № 4. 16-24.

Pred A. R. (1966). The Spatial Dynamics of U. S. Urban-Industrial Growth. 1800-1914. Cambridge: MIT Prees.

Reinert, E. (2007) How Rich Countries Got Rich… and Why Poor Countries Stay Poor. London: Constable & Robinson.

Slutsky, V. A., Teterin D. E. (2013) Multiplicative effect of investment projects is an important factor in making strategic decisions. *Bulletin of the Chemical Industry*. 4(73), 25-30.

Stepanova, D., Vershitsky A., Prasolov V. (2018) Entrepreneurial entry and shadow economy: the case of transition countries. *Journal of Entrepreneurship Education*, 21. 1-11.

Tinbergen, J., Bos H. (1962) Mathematical models of economic growth. Moscow: Progress. 172 p.

Venabies, A. (1996) Equilibrium Locations of vertically linked industries // *International Economic Revie.* Vol. 37. Issue 2. 341-359.

Vershitsky, A. V., Salabutin A. V. (2017) Tools for the Development of Small and Medium-Sized Businesses. Managing Socio-Economic Systems: Theory, Methodology, Practice. 23-31.
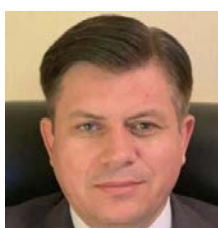
Vershitsky Andrey is an Associate Professor of State and Municipal Management Department, V.I. Vernadsky Crimean Federal University, Simferopol, Russia. He can be reached at vershitsky@gmail.com.

Vershitskaya Elena is an Associate Professor of Management Department V.I. Vernadsky Crimean Federal University, Simferopol, Russia. She can be reached at elena.vershitskaya@gmail.com.

Salabutin Anton is a master's student of State and Municipal Management Department V.I. Vernadsky Crimean Federal University, Simferopol, Russia. He can be reached at salabutin.1997@mail.ru.