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THE RELATIONSHIP BETWEEN INVESTMENTS AND SOCIO-ECONOMIC INDICATORS IN THE RA REGIONS (Quantitative Assessments)

Over the years, investments in the Republic of Armenia (RA) regions have mostly positively improved their socio-economic indicators, particularly unemployment and poverty. However, due to investment in regions, impact assessment on the state of socio-

economic development of the areas is not carried out, significantly hindering the efficiency of investment management processes. This article aims to evaluate the correlation level between investments and socio-economic indicators in the RA regions using an empirical analytical toolkit.

The results of the analysis showed that the RA regions, due to their different levels of economic development, have different volumes of investments per capita.

As a result, the high volume of investments per capita in the regions was accompanied by a decrease in poverty and unemployment in the same region, but not in all cases these investments were accompanied by an increase in the number of enterprises. At the same time, during these years, the level of poverty and unemployment did not decrease in the regions that are not distinguished by high investment indicators. In most regions, investments have almost no impact on changes in per capita indicators of various sectors of the economy in the regions.

Keywords: FDI, RA regions, socio-economic indicators, correlation analysis

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INTRODUCTION. It should be noted that in the spheres of the RA state, territorial administration, as well as local self-government, there are almost no assessments of the impact of investments on changes in the socio-economic situation, which often hinders the development of effective investment policies and does not allow to see the long-term results provided by investments. The lack of clear tools for assessing the interaction of investments and socio-economic indicators in the region, in turn, makes it difficult for potential investors to decide to invest in the RA. The subject matter of this analysis is relevant due to the problems mentioned. Within the framework of this study, the following research questions were defined:

- How are investments interrelated with several socio-economic indicators of PP in the RA regions?
- What is the impact of the volume of foreign direct investment (FDI) in regions on reducing unemployment and poverty levels, as well as on various sectors of the economy in the regions?

This article aims to assess the level of relationship between FDI and a number of socio-economic indicators in the regions of the RA from 2017 to 2022.

The following main issues were defined in this research:

- To analyze the net FDI per capita volumes in the RA regions during 2017-2022.
- To assess the levels of relationship between FDI and local socio-economic indicators (unemployment rate, poverty rate, average nominal wage, number of newly created businesses, as well as per capita indicators of agriculture, industry, construction, and services) in the RA regions.

LITERATURE REVIEW. Several foreign authors in their works have repeatedly referred to the importance of investment attraction from the point of view of the socio-economic development of regions. In this analysis, the study of international experience was mainly based on assessing the impact of investments on local economic development, as well as the discussion of the tools used in international practice.

Thus, Anna Yu. Kosobutskaya and Annie V. Ravohanginirina emphasize the importance of choosing the optimal method for evaluating the effectiveness of investments. In their article, the authors presented the main methods by which it became possible to calculate the investment attractiveness of the regions of the Russian Federation. In particular, the importance of using economic, mathematical, and factor analysis methods for assessing the investment attractiveness of regions was presented. In the article, the authors have also suggested applying regression models, allowing us to identify the impact sizes of the factors forming the investment attractiveness (Kosobutskaya & Ravohanginirina, 2021).

In the framework of another analysis carried out to assess the investment attractiveness, the authors showed the direct dependence of the research, educational centers, and the investment attractiveness of the region. In particular, Elena Lavrinenko, and Viktor Zakharov used the term "Territorial differentiation" in their research, which is mainly aimed at characterizing the level of interaction between the growth rate of investments in fixed assets and the gross domestic product of a given region (Lavrinenko & Zakharov, 2021).

In the OECD "Rethinking Regional Attractiveness In The New Global Environment" report, the authors describe international investment attractiveness with 2 variables (the number of new greenfield FDI projects in each region over the 2017-2022 period and the sum of foreign capital expenditure received by each region over the same period) and performed a regression analysis with 5 independent variables (flight accessibility, railway accessibility, GDP per capita, digital download speed, top 500 universities). (OECD, 2023). As a result, it was found that the number of greenfield FDI projects is mainly concentrated in the regions where the best universities operate, as well as there is access to several infrastructures, for example, railways, flights, etc (OECD, 2023).

Fisnik Morina, Valdrin Misiri, and Fitore Gashi tried to analyze and study the connection between local investment and economic growth in their research. Let us present some results of the evaluation of the relationships between the considered variables. Through the regression model used by Pece, Andreea, Oros & Olivera (2015), it was found that FDI had a significant impact on the economic growth of the region under consideration, which was accompanied by the improvement of knowledge as well as technological processes (Morina et al, 2023).

However, Nguyen's study results show that factors such as labor and trade openness negatively impact economic growth in the short term. Public investment harms economic growth in the long run, while domestic private investment, foreign direct investment, trade openness, and labor positively affect economic growth (Morina et al., 2023).

In the article entitled "Impact of Investments on Economic Growth: Evidence from Vietnam", the authors state that in the long run, public investment hurts economic growth, while domestic private investment, foreign direct investment, trade openness, and labor have positive effects on economic growth (Nguyen The Khang, & Nguyễn, 2021).

In his article, Stavros G. Efthimiou concluded that FDI is greatly influenced by GDP, the level of unemployment, and inflation in the countries that are or have been under the regime of fiscal adjustment programs (Efthimiou, 2024).

In their paper, Morina, Misiri, and Gashi discussed the interrelationship between investments and different sectors of the economy. Considering the impact of investments on different sectors of the economy, the authors concluded that investments have a positive impact on economic growth in OECD countries. It is also interesting that the high efficiency of attracting investments in these countries is because these countries can diversify their portfolios and manage risks through investments in different sectors of the economy. (Morina et al., 2023)

In their analysis, Jonathan A. Batten and Xuan Vinh Vo have again attempted to assess the relationship between foreign investment and economic development. They found that FDI has a stronger impact on economic growth in countries with relatively high levels of education. In addition, these countries are also characterized by openness to international trade, a developed stock market, high population growth rates, and a low level of investment risk. (Batten & Xuan Vinh Vo 2010).

Based on Georgia's experience, Ramin Tsinaridze and Nino Makharadze concluded that the relationship between foreign investment and employment is strong, and has led to an increase in employment. At the same time, there is a weak relationship between investment and imports and exports. However, in recent years, the volume of foreign investment in Georgia has decreased due to the pandemic and financial crises. (Tsinaridze et al., 2023).

In one of the results of the assessment of the impact of investments on the economy, the authors concluded that regional imbalance is not the result of the labor force and non-infrastructure investment but is the result of the discrepancy of the infrastructure investment's reward in different areas. (Wenjun & Jing, 2011)

In the investment sector, the government of the RA is guided by the principles of an "open door" policy, liberalization of relations related to investment activity, determination of national and most favorable regimes for

foreign investors, and proper protection of investments. According to the RA "Law On Foreign Investments", foreign investment is considered to be any type of property, including financial means and intellectual property, which are directly invested by a foreign investor in the field of entrepreneurial or other activities carried out in the territory of the RA to obtain profit or achieve other useful results (Law On Foreign Investments *of the RA*, 1994).

According to the 2023 Economic Freedom Index published by "The Heritage Foundation" analytical center, Armenia ranks 28th among 184 countries in the European region. With this indicator, the RA is second only to neighboring Georgia among CIS countries (Index of Economic Freedom: Armenia, 2023).

However, the analyses carried out at the local level do not provide an opportunity to form ideas about the long-term impact of investments in the region. Besides, evaluations of interaction levels of investments and socio-economic indicators are also not carried out by the authorized bodies involved in the development of investment policy at the state level. Therefore, the analysis carried out in this article aims to compare the socio-economic indicators of the regions and the volumes of FDI, as well as identify the opportunities and obstacles for attracting investments in the regions. Empirical evaluation methods used in the analysis will allow us to identify the directions of growth/decrease of FDI and several local socio-economic indicators in the RA regions.

RESEARCH METHODOLOGY. Statistical data analysis, comparison, combination, and correlation analysis methods were used in the article. The appropriateness of the choice of methods is determined by the need to assess the level of the relationship between FDI and socio-economic indicators in the regions of the RA. In addition, the selected methods allowed us to analyze the main directions of development of all the RA regions according to different sectors of the economy, due to which it will be clear how the indicators of socio-economic development of regions tended to increase or decrease along with the growth of investments in the regions.

It should be noted that the 2017-2022 compilations of territorial statistics of the Statistical Committee of the RA served as the basis for the analysis of FDI and socio-economic indicators of the regions of the RA. The database collected for correlation analysis includes the following indicators:

- net foreign direct investment per capita,
- unemployment rate,
- poverty rate,
- amount of average nominal salary,
- number of enterprises,
- per capita volumes of industrial and agricultural production, construction, and services.

At the same time, the RA "Law On Foreign Investments", the 2019 program of the RA Government, served as a theoretical basis for the article.

ANALYSIS. Correlation analysis results (empirical estimates)

Aiming to make the correlation of FDI and socio-economic indicators visible in the RA regions and the directions of the development of these indicators, below we will try to interpret the results of the correlation analysis carried out for all the RA regions, comparing them with the relevant statistical indicators.

Table 1

Volumes of net foreign direct investments per capita in the RA regions during 2017-2022 (AMD)

Region/Year	2017	2018	2019	2020	2021	2022
Aragatsotn	0	99	2427	1421	0	0
Ararat	1.241	2.558	1.502	0	0	1.305
Armavir	0	0	0	0	2311	110.93
Gegharkunik	0	0	0	0	295	0
Lori	2.079	2.8	0	0	798	0
Kotayk	0	1.375	3.697	0	9.361	17.803
Shirak	9.3	14.1	11.2	3.5	13.9	0
Syunik	116.736	62.334	0	20.898	573.835	522.028
Vayots dzor	0	0	0	0	0	0
Tavush	0	2723.4	197.5	269.7	0	0

The authors' calculations. Source: Statistical Committee Republic of Armenia, (2017-2022).

The volumes of FDI in the RA regions have increased mainly in the Armavir, Kotayk, and Syunik regions in recent years. This indicator has been the highest in the RA in recent years, especially in Syunik. At the same time, Vayots Dzor, Tavush, Shirak, Lori, Gegharkunik, and Aragatsotn are in the rear guard positions (Table 1).

As can be seen from the results of the correlation analysis of FDI and socio-economic indicators of the Aragatsotn region, the investments made in the region and the changes in unemployment and poverty go in the opposite direction (coefficients of 0.7 and 0.9, respectively), which means that the investments made in the region were not accompanied by the improvement of unemployment and poverty indicators. At the same time, it is interesting that in the Aragatsotn region, there is a decrease in both unemployment and poverty levels. In particular, in 2022, the unemployment rate in the region was 4.8%, while in 2020, this indicator was 10%. Similarly, the poverty rate in 2022 was 13.5%, and in 2020 it was 32.9%. At the same time, the volume of FDIs in the region in 2020 and 2021 was 0 (according to the Statistical Committee of the Republic of Armenia). It turns out that the improvements in the level of unemployment and poverty in the Aragatsotn region (Correlation matrix 1) of the RA were not related to the investments made in the region. In addition, no new enterprises were created within the framework of the investments made in the region during 2018-2020, which also confirms the insignificant impact of the investments on the local economic development in the Aragatsotn region.

Correlation matrix 1

Interaction of FDI and socio-economic indicators of Aragatsotn region, RA

	<i>Net FDI, per capita</i>	<i>Unemployment rate</i>	<i>Poverty rate</i>	<i>Average monthly nominal salary</i>	<i>The share of newly created entrepreneurs in the total number of entrepreneurs</i>	<i>The volume of industry, per capita</i>	<i>The volume of agriculture, per capita</i>	<i>The volume of construction, per capita</i>	<i>The volume of services, per capita</i>
Net FDI, per capita	1								
Unemployment rate	0.769805176	1							
Poverty rate	0.991602981	0.71874779	1						
Average monthly nominal salary	-0.089029256	-0.177415739	-0.179932353	1					
The share of newly created entrepreneurs in the total number of entrepreneurs	0.251137826	0.103575069	0.175370764	0.744594516	1				
The volume of industry, per capita	-0.794277958	-0.950881515	-0.774508946	0.333506465	0.098253907	1			
The volume of agriculture, per capita	-0.732266366	-0.7604896	-0.752862733	0.445207243	0.24739716	0.920285015	1		
The volume of construction, per capita	-0.826295407	-0.899367764	-0.824207731	0.386671873	0.115024501	0.98607138	0.96347297	1	
The volume of services, per capita	-0.042577394	-0.366402221	-0.0876749	0.754235475	0.81176715	0.550477896	0.657614022	0.555996678	1

The authors' own calculations. Source: Statistical Committee Republic of Armenia, (2017-2021)

Correlation matrix 2

Interaction of FDI and socio-economic indicators of the Ararat region, RA

	<i>Net FDI, per capita</i>	<i>Unemployment rate</i>	<i>Poverty rate</i>	<i>Average monthly nominal salary</i>	<i>The share of newly created entrepreneurs in the total number of entrepreneurs</i>	<i>The volume of industry, per capita</i>	<i>The volume of agriculture, per capita</i>	<i>The volume of construction, per capita</i>	<i>The volume of services, per capita</i>
Net FDI, per capita	1								
Unemployment rate	-0.258696274	1							
Poverty rate	-0.732361496	0.6264114	1						
Average monthly nominal salary	-0.567200686	0.223532575	0.836547491	1					
The share of newly created entrepreneurs in the total number of entrepreneurs	0.47906083	-0.218075052	-0.033076654	0.360089822	1				
The volume of industry, per capita	-0.198516727	0.479804173	0.778504832	0.816680575	0.565107481	1			
The volume of agriculture, per capita	-0.250914438	-0.472978075	0.258311503	0.721742538	0.47275141	0.355389175	1		
The volume of construction, per capita	-0.372149068	-0.63127491	-0.067986455	0.278878678	-0.114945245	-0.294583714	0.74520285	1	
The volume of services, per capita	0.340922326	-0.139414358	0.155499994	0.55237251	0.800744901	0.615032476	0.672321821	0.132676543	1

The authors' own calculations. Source: Statistical Committee Republic of Armenia, (2017-2021)

At the same time, the relationship between FDI and various sectors of the economy in the region is also negative. This means that the changes in these indicators are not synchronous, and investments in the region have not impacted the long-term development of any sector.

The results of the correlation evaluation carried out in the Ararat region (Correlation matrix 2) show that the investments made in the region and socio-economic indicators, in particular, the levels of poverty and unemployment, have an inverse relationship, which means that the investments made in the region had a certain positive effect, especially on the weakening of the poverty level of the region. Statistical data analysis also supports such a result of the correlation matrix. It should be noted that in 2022, the FDI implemented in the region was about 1.300 AMD per capita (Chart 1). In parallel, both poverty (28% in 2022 compared to 32.8% in 2020) and unemployment rates (8.5% in 2022 compared to 12.6% in 2020) have decreased (according to the Statistical Committee of the Republic of Armenia). We can conclude that due to the investments made in the Ararat region during the last year, it was possible to alleviate the level of poverty to a certain extent, having a very small effect on the increase in the number of enterprises.

It is worth noting that FDI (as in the previous example) is negatively correlated with the per capita indicators of several sectors of the economy in the region (industry, agriculture, construction). There is a very slight positive correlation between investments and the volume of services per capita in the region.

The results of the statistical data analysis of the Armavir region show that the increase of FDI involved in the region was accompanied by the weakening of the unemployment rate (coefficient: -0.9). It is necessary to emphasize that during 2021-2022, the volume of FDIs implemented in the Armavir region (Correlation matrix 3), compared to the previous years, has increased considerably, taking into account that the volume of FDIs implemented in the region before 2021 was 0. Analyzing the level of unemployment in the region in parallel, we see that this indicator was 7.7% in 2022 compared to 10.6% in 2021 (according to the Statistical Committee of the Republic of Armenia). Contrary to what was mentioned, the region's poverty level has increased in recent years. Thus, the results of the correlation evaluation show that new jobs were created resulting from the investments made in the Armavir region in recent years, due to which the unemployment rate decreased, and on this background, an increase in the average monthly salary is observed in the region. However, the attraction of FDI has not been accompanied by an increase in the number of new enterprises, as the correlation between the number of FDI enterprises is quite weak.

The relationship between foreign investment and per capita economic indicators in the Armavir region is significantly different from that of other regions. The results of the correlation analysis allow us to conclude that investments in the region have also increased the corresponding per capita indicators of industry, agriculture, and services.

Correlation matrix 3

Interaction of FDI and socio-economic indicators of the Armavir region, RA

	<i>Net FDI, per capita</i>	<i>Unemployment rate</i>	<i>Poverty rate</i>	<i>Average monthly nominal salary</i>	<i>The share of newly created entrepreneurs in the total number of entrepreneurs</i>	<i>The volume of industry, per capita</i>	<i>The volume of agriculture, per capita</i>	<i>The volume of construction, per capita</i>	<i>The volume of services, per capita</i>
Net FDI, per capita	1								
Unemployment rate	-0.901924083	1							
Poverty rate	0.68227634	-0.644000184	1						
Average monthly nominal salary	0.78250063	-0.885961702	0.807443359	1					
The share of newly created entrepreneurs in the total number of entrepreneurs	0.280281121	-0.658923122	0.256639127	0.58827143	1				
The volume of industry, per capita	0.874376392	-0.89055937	0.770471082	0.970177075	0.446841005	1			
The volume of agriculture, per capita	0.883628119	-0.8396375	0.877391226	0.802959328	0.318371946	0.805204133	1		
The volume of construction, per capita	0.178793355	-0.488941657	-0.061162889	0.199695921	0.753320181	0.084613368	0.250650347	1	
The volume of services, per capita	0.795404473	-0.919046785	0.312410161	0.737079328	0.639574672	0.772199552	0.607472998	0.566104315	1

The authors' own calculations. Source: Statistical Committee Republic of Armenia, (2017-2021)

Correlation matrix 4

Interaction of FDI and socio-economic indicators of the Gegharkunik region, RA

	<i>Net FDI, per capita</i>	<i>Unemployment rate</i>	<i>Poverty rate</i>	<i>Average monthly nominal salary</i>	<i>The share of newly created entrepreneurs in the total number of entrepreneurs</i>	<i>The volume of industry, per capita</i>	<i>The volume of agriculture, per capita</i>	<i>The volume of construction, per capita</i>	<i>The volume of services, per capita</i>
Net FDI, per capita	1								
Unemployment rate	-0.431911842	1							
Poverty rate	0.371664533	-0.100445796	1						
Average monthly nominal salary	0.431747657	-0.342893605	0.881186613	1					
The share of newly created entrepreneurs in the total number of entrepreneurs	0.207021655	0.394400455	0.511438968	0.454222687	1				
The volume of industry, per capita	-0.403633671	0.536660625	0.605688146	0.400633273	0.632206283	1			
The volume of agriculture, per capita	-0.015901817	-0.424539315	-0.555466287	-0.295681441	-0.036732609	-0.465729156	1		
The volume of construction, per capita	0.445637079	-0.353722419	0.900543349	0.900729092	0.581061394	0.464694779	-0.139064483	1	
The volume of services, per capita	-0.067730456	-0.588161662	0.101710296	0.426624618	0.163630283	0.043645613	0.644743038	0.459627853	1

The authors' calculations. Source: Statistical Committee Republic of Armenia, (2017-2021)

Gegharkunik (Correlation matrix 4) is one of the regions of the RA where the volume of FDI is rather small. It should be noted that the results of the obtained correlation analysis do not show any significant relationship between the analyzed factors. The region has almost no correlation between unemployment and poverty indicators. FDI was implemented in the region only in 2021, which is such a small indicator that, logically, it has no impact on the socio-economic indicators of the region. This region also has a problem in terms of increasing investment attractiveness.

At the same time, the relationship between foreign investments in the Gegharkunik region and various sectors of the economy in the region is mainly negative, which means that the changes in these indicators are also not synchronous, and foreign investments made in the region do not have an impact on the development of various sectors of the economy in the region.

Let us discuss the results of the correlation analysis carried out in the Lori region by combining statistical data. In particular, as a result of the correlation analysis, the inverse relationship between FDI and unemployment at first glance allows us to assume that the investments made in the region contributed to the reduction of the unemployment rate. However, the number of investments made in the region is so small that it is unlikely that they could have a very large impact on reducing the level of unemployment in the region. In recent years, even the unemployment rate in the region has increased, making 19.3% (2022) compared to 18.8% last year (2021) (according to the Statistical Committee of the Republic of Armenia). In addition, the negative relationship between FDI in the region and the newly created enterprises also proves that the investments did not significantly affect the improvement of the region's socio-economic indicators.

The relationship between foreign investments in the Lori region (Correlation matrix 5) and various sectors of the economy in the region has not provided significant outcomes, due to which the connections between investments and different sectors of the economy are not visible.

Kotayk (Correlation matrix 6) is one of the unique regions of the RA, where the volume of FDI was quite large. In 2022, the volume of FDI per capita amounted to 17.800 AMD, which is the second in the volume of the comparison of the RA regions. The results of the correlation analysis show that the increase in FDI in this province was accompanied by a weakening of the main unemployment rate. In parallel, there is an increase in job opportunities in several newly created enterprises. It should be noted that the unemployment rate here in 2022 was 18% compared to the indicators of 20.1% and 18.1% in 2020 and 2021 (Statistical Committee of the Republic of Armenia).

Like in the Armavir region, the relationship between foreign investment and per capita indicators of economic sectors in the Kotayk region is generally strong, except for the services sector. The results of the correlation analysis allow us to conclude that investments made in the region have increased the corresponding per capita indicators of the industry, agriculture, and construction sectors in parallel.

Correlation matrix 5

Interaction of FDI and socio-economic indicators of the Lori region, RA

	<i>Net FDI, per capita</i>	<i>Unemployment rate</i>	<i>Poverty rate</i>	<i>Average monthly nominal salary</i>	<i>The share of newly created entrepreneurs in the total number of entrepreneurs</i>	<i>The volume of industry, per capita</i>	<i>The volume of agriculture, per capita</i>	<i>The volume of construction, per capita</i>	<i>The volume of services, per capita</i>
Net FDI, per capita	1								
Unemployment rate	-0.731946061	1							
Poverty rate	0.302928156	-0.636815868	1						
Average monthly nominal salary	-0.18268999	0.67222029	-0.792551121	1					
The share of newly created entrepreneurs in the total number of entrepreneurs	-0.778759216	0.67544845	-0.544569921	0.616600459	1				
The volume of industry, per capita	0.877020873	-0.438609881	-0.08141911	0.164785153	-0.553381859	1			
The volume of agriculture, per capita	0.186423179	-0.113050535	-0.23572206	0.506344326	0.396980134	0.156262899	1		
The volume of construction, per capita	-0.131569268	-0.000978707	-0.408166335	0.479413675	0.658630777	-0.038711981	0.862915725	1	
The volume of services, per capita	-0.537234811	0.579458472	-0.415373829	0.677364882	0.853497873	-0.464835167	0.668967384	0.66738545	1

The authors' calculations. Source: Statistical Committee Republic of Armenia, (2017-2021)

Correlation matrix 6

Interaction of FDI and socio-economic indicators of the Kotayk region, RA

	<i>Net FDI, per capita</i>	<i>Unemployment rate</i>	<i>Poverty rate</i>	<i>Average monthly nominal salary</i>	<i>The share of newly created entrepreneurs in the total number of entrepreneurs</i>	<i>The volume of industry, per capita</i>	<i>The volume of agriculture, per capita</i>	<i>The volume of construction, per capita</i>	<i>The volume of services, per capita</i>
Net FDI, per capita	1								
Unemployment rate	-0.726040625	1							
Poverty rate	-0.089348188	0.18513014	1						
Average monthly nominal salary	0.865452816	-0.865919949	-0.480558217	1					
The share of newly created entrepreneurs in the total number of entrepreneurs	0.752701998	-0.250298814	-0.314664392	0.653182364	1				
The volume of industry, per capita	0.827332473	-0.842887876	-0.535453627	0.994918181	0.664090404	1			
The volume of agriculture, per capita	0.927547373	-0.691819353	-0.300892917	0.860187264	0.645959711	0.817609879	1		
The volume of construction, per capita	0.989352462	-0.75234654	-0.199244322	0.901521791	0.724643123	0.864419617	0.968504971	1	
The volume of services, per capita	-0.217272196	0.612245909	0.722284583	-0.589112722	0.053384208	-0.605698369	-0.446863486	-0.339299906	1

The authors' calculations. Source: Statistical Committee Republic of Armenia, (2017-2021)

Correlation matrix 7

Interaction of FDI and socio-economic indicators of the Shirak region, RA

	<i>Net FDI, per capita</i>	<i>Unemployment rate</i>	<i>Poverty rate</i>	<i>Average monthly nominal salary</i>	<i>The share of newly created entrepreneurs in the total number of entrepreneurs</i>	<i>The volume of industry, per capita</i>	<i>The volume of agriculture, per capita</i>	<i>The volume of construction, per capita</i>	<i>The volume of services, per capita</i>
Net FDI, per capita	1								
Unemployment rate	0.404026002	1							
Poverty rate	-0.037757454	-0.409620426	1						
Average monthly nominal salary	-0.564475712	-0.867247047	0.426005243	1					
The share of newly created entrepreneurs in the total number of entrepreneurs	-0.569575277	-0.962214547	0.39703205	0.806617557	1				
The volume of industry, per capita	-0.672763826	-0.683622155	0.373823427	0.697708949	0.762289999	1			
The volume of agriculture, per capita	-0.296728025	-0.072414154	0.026426517	0.078171993	0.163998255	0.716903467	1		
The volume of construction, per capita	-0.152183957	-0.741443349	0.907879553	0.642730222	0.719029124	0.537745442	0.023306953	1	
The volume of services, per capita	-0.548055283	-0.721013904	0.561741419	0.656517024	0.797911079	0.963036848	0.649541341	0.711224332	1

The authors' calculations. Source: Statistical Committee Republic of Armenia, (2017-2021)

Correlation matrix 8

Interaction of FDI and socio-economic indicators of the Syunik region, RA

	<i>Net FDI, per capita</i>	<i>Unemployment rate</i>	<i>Poverty rate</i>	<i>Average monthly nominal salary</i>	<i>The share of newly created entrepreneurs in the total number of entrepreneurs</i>	<i>The volume of industry, per capita</i>	<i>The volume of agriculture, per capita</i>	<i>The volume of construction, per capita</i>	<i>The volume of services, per capita</i>
Net FDI, per capita	1								
Unemployment rate	-0.662489807	1							
Poverty rate	-0.702215285	0.160131344	1						
Average monthly nominal salary	0.63444868	0.082076398	-0.942491792	1					
The share of newly created entrepreneurs in the total number of entrepreneurs	0.697681846	-0.073892666	-0.580971077	0.706368194	1				
The volume of industry, per capita	0.932027565	-0.401125815	-0.893447911	0.866513059	0.750539158	1			
The volume of agriculture, per capita	0.542837249	-0.332060304	0.02138009	0.083214701	0.662920286	0.340425505	1		
The volume of construction, per capita	0.976295907	-0.5048731	-0.799748697	0.768813232	0.797380024	0.973663045	0.526118247	1	
The volume of services, per capita	0.233804347	-0.200374647	0.235108574	-0.154388363	0.54938822	0.033739914	0.875189009	0.23653203	1

The authors' calculations. Source: Statistical Committee Republic of Armenia, (2017-2021)

The Shirak region (Correlation matrix 7) (as well as the Gegharkunik region) is not particularly attractive for investment. This is evidenced by the dynamics of the volume of FDI implemented in the region and by the fact that the latter has almost no impact on the region's socio-economic indicators.

The relationship between foreign investments in the Shirak region and various sectors of the economy has not provided significant outcomes, so the connections between investments and different sectors of the economy are not visible.

Even though the Syunik region (Correlation matrix 8) has the largest volume of FDI per capita compared to the RA regions, the increase in the mentioned index was not accompanied by the increase in the number of new enterprises. According to the results of the correlation analysis, the level of poverty decreased along with the growth of the investments made in the region. In particular, in 2021 and 2022, this indicator was 2.8% compared to 6.1% in 2020 (according to the Statistical Committee of the Republic of Armenia).

However, the results of the analysis allow us to conclude that the dominance of the mining sector in the region over other sectors does not allow the diversification of the economy, as a result of which no new enterprises were created, while some socio-economic indicators improved.

Foreign investments and certain economic sectors have a positive relationship in the Syunik region, Armavir, and Kotayk. As a result, the growth of foreign investments per capita in the region has been accompanied by an increase in the corresponding indicators of the industry and construction sectors.

The analysis based on the data of the Vayots Dzor region (Correlation matrix 9) did not observe an interaction because the indicator of FDI per capita in the region was 0 during the considered period. However, we should note that the levels of unemployment (14.1% in 2022) and poverty (26.6% in 2022) are quite high in the region.

The Tavush region is also not particularly notable for its large volume of FDIs. Although their number increased somewhat between 2018 and 2020, it was zero in the last two years. As a result, the FDIs in the region could not significantly improve the region's socio-economic indicators.

The relationship between foreign investments in the Tavush region (Correlation matrix 10) and different sectors of the economy in the region has also not provided significant outcomes, as a result of which the connections between investments and various sectors of the economy are not visible.

Correlation matrix 9

Interaction of FDI and socio-economic indicators of the Vayots Dzor region, RA

	<i>Net FDI, per capita</i>	<i>Unemployment rate</i>	<i>Poverty rate</i>	<i>Average monthly nominal salary</i>	<i>The share of newly created entrepreneurs in the total number of entrepreneurs</i>	<i>The volume of industry, per capita</i>	<i>The volume of agriculture, per capita</i>	<i>The volume of construction, per capita</i>	<i>The volume of services, per capita</i>
Net FDI, per capita	1								
Unemployment rate	0	1							
Poverty rate	0	-0.15527579	1						
Average monthly nominal salary	0	0.015650829	0.947473967	1					
The share of newly created entrepreneurs in the total number of entrepreneurs	0	0.559919625	0.319637525	0.302991022	1				
The volume of industry, per capita	0	0.062021956	0.740761118	0.80336316	0.535094225	1			
The volume of agriculture, per capita	0	-0.79965483	0.404039804	0.359607827	-0.530287305	0.349525907	1		
The volume of construction, per capita	0	-0.816649829	-0.425671241	-0.517080124	-0.775600014	-0.466960949	0.554968349	1	
The volume of services, per capita	0	-0.101662628	0.78173136	0.865946091	0.305650959	0.957758494	0.529748752	-0.313335518	1

The authors' calculations. Source: Statistical Committee Republic of Armenia, (2017-2021)

Correlation matrix 10

Interaction of FDI and socio-economic indicators of the Tavush region, RA

	Net FDI, per capita	Unemployment rate	Poverty rate	Average monthly nominal salary	The share of newly created entrepreneurs in the total number of entrepreneurs	The volume of industry, per capita	The volume of agriculture, per capita	The volume of construction, per capita	The volume of services, per capita
Net FDI, per capita	1								
Unemployment rate	0.715473666	1							
Poverty rate	-0.50966103	-0.363486187	1						
Average monthly nominal salary	-0.383460257	-0.1314981	0.717208948	1					
The share of newly created entrepreneurs in the total number of entrepreneurs	-0.332536118	0.151383424	0.127379511	0.687374715	1				
The volume of industry, per capita	-0.232617087	0.161314392	0.669982559	0.911166823	0.731493571	1			
The volume of agriculture, per capita	-0.2627598	-0.402533239	0.589137893	0.724268791	0.411000771	0.656691406	1		
The volume of construction, per capita	-0.073587418	0.072907478	-0.395333704	0.249421596	0.56995621	0.052780112	-0.107301206	1	
The volume of services, per capita	-0.249745048	0.220698914	0.326433878	0.838703407	0.95216881	0.882316408	0.491800515	0.477151621	1

The authors' calculations. Source: Statistical Committee Republic of Armenia, (2017-2021)

CONCLUSIONS. Thus, the results of the analysis allowed us to conclude that investments in Armenia have little or no impact on improving the socioeconomic indicators of the regions. The lack of a connection between the mentioned factors is due to several reasons. The first of them is the small volume of investments and their unstable and long-term nature. Often, the small volumes of investments implemented in the regions are unable to have any positive impact on the socioeconomic indicators of the regions. Another important factor is that investments implemented in the regions of Armenia don't cover different sectors and are mainly focused on one sector in large volumes (for example, in the mining sector in the Syunik region). The above-mentioned is also substantiated by the negative relationship between investments and indicators of different sectors of the economy in the regions as a result of the correlation analysis. In addition, very few new enterprises are created as a result of investments implemented in the regions. Due to the above-mentioned, it is extremely important that the regions, in addition to increasing investment attractiveness, should try to emphasize the diversification of the economy in attracting investments and be able to present to possible investors the potential and peculiarities of the development of different sectors of the economy in the region. It should also be noted that, among the regions of Armenia, the regions of Armavir, Kotayk, as well as Syunik stood out with particularly different indicators, where a strong connection was observed between the volumes of investments and different sectors of the economy per capita. As a result, it can be concluded that the most attractive sectors in these regions from the point of view of attracting investments are industry, agriculture, as well as construction. It should also be noted that the aforementioned regions have relatively high indicators, which contribute to the promotion of the investment attractiveness of these sectors. At the same time, there are regions in Armenia where the implemented FDI had almost no impact on the region's socioeconomic indicators, such as the Gegharkunik, Shirak, Vayots Dzor, and Tavush regions.

Thus, the results of the empirical analysis conducted showed that such assessments make the main shortcomings of the investment policies implemented by the regions obvious, while simultaneously indicating the introduction of measurable tools for planning investment policy. Based on the above-mentioned, the assessment of the level of correlation between investments and socioeconomic indicators in different regions of Armenia also allows us to assess the effectiveness and impact of investments from the perspective of the balanced development of the regions. As a result, it becomes possible to make the future potential benefits of attracting investments more measurable and to form an understanding of investments and several socio-economic indicators in the regions of Armenia among potential investors.

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