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**REVEALING THE MAIN FACTORS
AFFECTING THE PRODUCTIVITY AND
COMPETITIVENESS OF THE INDUSTRIAL
ORGANIZATIONS IN THE RA***

A transition of the economy towards more internationally competitive and efficient system requires transformation of an existing industry with a priority on high-productivity activities through innovative technologies. To achieve that, at first, it is required to

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examine the current situation in the industry, determine the main trends and features of it, and then, based on this information, execute precise policy measures toward the development of the transformation policy. For this aim, an analysis of the quantity of the industrial organizations in the Republic of Armenia, their output volumes, and export patterns was carried out in this paper. The analysis was complemented with a survey that aimed at revealing the main factors of competitiveness of Armenian firms in domestic and foreign markets. With that objective, the survey was designed to cover the information on the main characteristics of the companies, their investment strategies, as well as on the perception of the companies about the importance of each component of competitiveness for their business.

Keywords: *industry, competitiveness, survey, industrial companies, productivity*

JEL: D41, O25, L16

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Introduction. In developing countries, the transformation of a prominent industry with a large share of priority activities into high-productivity activities through innovative technologies is crucial for economic development. That is the cornerstone of the economic policy of many countries, including the Asian ones with rapid economic growth, based on which industry development strategies and action plans are constructed¹. A transition like this will lead to an increase of the internationally competitive manufacturing firms, which will eventually raise exports and stimulate growth in other areas of the economy.

To achieve that, at first, it is required to examine the current situation in the sector, determine the main trends and features of it, and then, based on this information, execute precise policy measures toward the development of the industry. For this aim, an analysis of the quantity of the industrial organizations in the Republic of Armenia, their output volumes, and export patterns was carried out in this paper. The study was based on the publications of the Statistical Committee of the Republic of Armenia, in particular, on "Main indicators of industrial organizations according to the five-digit classification of economic activity", which provides an overview of the indicators of industrial organizations by activity type.

The next step was the evaluation of the factors affecting the output and the export volumes of the firms due to the mentioned data and panel regression toolkit. Based on the assessment results and the carried out analyses, the options of the policy actions for the development of the manufacturing are presented.

Having the overview of the companies and their main indicators, the analysis was complemented with a survey that aimed at revealing the main factors of competitiveness of Armenian firms in domestic and foreign markets. With that objective, the survey was designed to cover the information on the main characteristics of the companies, their investment strategies, as well as on the perception of the companies about the importance of each component of competitiveness for their business.

¹ **Wim, Naudé, Adam, Szirmai** (2012). The Importance of Manufacturing in Economic Development: Past, Present and Future Perspectives, UNU-MERIT Working Papers, ISSN 1871-9872.

Literature review. The competitiveness of industry and the factors affecting it have been important fields of analysis for many researchers. In particular, for countries that are targeting export-oriented economic growth, it is more crucial to have assessment of industrial competitiveness and its drivers. A theoretical basis of industrial competitiveness is Michael Porter's diamond model. It suggests that the main drivers of national competitiveness are resources, demand for the products, firm's strategy and supporting or related industries' conditions². There are many indexes for evaluating industrial competitiveness, such as the Global Competitiveness Index produced by World economic forum³, which however, does not provide the importance of the firm level factors for industrial competitiveness. In a UN publication⁴, two approaches are used in competitiveness analysis. First, the emphasis is placed on international comparisons, and the second focuses on the cluster approach to assessing the performance and future prospects of industries in specific countries/regions. International comparisons are made using indicators describing competitiveness, such as relative prices, unit labor cost, capital cost, rate of investment, foreign direct investment/portfolio investment, rate of exposure to foreign competition. Sirikrai and Tang (2006)⁵ proposed that the aggregate performance of many firms in a particular industry can reflect the competitiveness of that industry as a whole and presented an AHP-based model to comprehensively explore the indicators and drivers of industrial competitiveness and their importance for automotive components industry in Thailand. The Analytic Hierarchy Process (AHP), proposed by Saaty (1980), is a decision-making support method for selecting a solution from alternatives based on a number of evaluation criteria⁶. Dou et al (2021) have built a whole competitiveness index to analyze the recent development trends of manufacturing in G20 participating countries from 2008 to 2018. The paper mainly concentrated on sustainable competitiveness and adopted a panel regression model to conduct an empirical analysis on various factors that affect the sustainable competitiveness of manufacturing⁷. The variety of the industrial competitiveness assessment methods presented in the literature gives a good idea about different aspects of the industrial competitiveness, and there is no commonly accepted method for comprehensive competitiveness analysis. Thus, for each country the assessment method can be different. For the Armenian economy it will be more suitable to use the AHP approach, based on the microdata collected directly from industrial companies that will help to reveal the main issues and obstacles of increasing productivity and competitiveness.

² **Porter, M.E.** (March–April, 1990). The Competitive Advantage of Nations, Harvard Business Review. ISSN 0017-8012. Retrieved 2020-07-16, March–April.

³ Global Competitiveness Report Special Edition 2020: How Countries are Performing on the Road to Recovery, World economic forum.

⁴ Methodology for the assessment of competitiveness of selected existing industries, Economic and social commission for Western Asia, United Nations, New York, 2001.

⁵ **Sajee, B., Sirikrai, John, C.S., Tang** (2006). Industrial competitiveness analysis: Using the analytic hierarchy process, Journal of High Technology Management Research 17 (2006) 71–83, 2006.

⁶ **Saaty, T.L.** (1980). The Analytic Hierarchy Process, McGraw-Hill, New York, NY.

⁷ **Dou, Z., Wu, B., Sun, Y., Wang, T.** (2021). The Competitiveness of Manufacturing and Its Driving Factors: A Case Study of G20 Participating Countries. Sustainability 2021, 13, 1143.

Research methodology. This paper uses two methods for revealing the main drivers of the productivity and industrial competitiveness in Armenia. Firstly, in order to analyze the correlations and the interactions between the main indicators of industrial organizations, panel regression models were constructed on the basis of the data available in the “main indicators of industrial organizations according to the five-digit classification of economic activity” statistical bulletins. Based on the 1617 observation included in the bulletins, 211 groups were separated matching the industrial sectors of five-digit classification. For better understanding of the interrelations between industrial indicators, we constructed two types of panel regression models. We started with production volumes as a dependent variable and estimated the effects of the number of employees, productivity and export shares on it. Then, we used the export shares as independent variable, and estimated the effects of number of employees, productivity sales volumes on it. Both models were estimated for the whole sample and for the exporting companies only, to test if there are different effects. Before regression we take logs of the variables to allow for an easier interpretation and comparison of the size of the estimated coefficients.

Second, a survey of industrial organizations has been performed to identify the opportunities and obstacles of increase of the competitiveness of the RA industry. In order to implement it, qualitative and quantitative information about the industrial organizations were collected through a survey, on the basis of which the possible ways of increasing the Armenian industrial competitiveness were outlined. The competitiveness assessment was carried out using the AHP (The analytic hierarchy process) method.

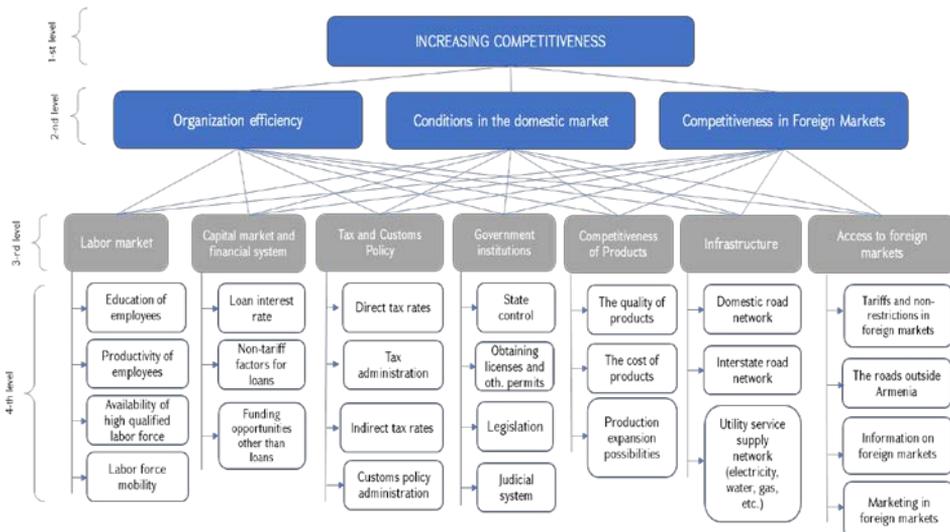


Figure 1. The hierarchy of factors affecting the competitiveness of industrial organizations based on the AHP method

The sampling of the survey was conducted by stratified sampling method, and the number of companies needed to participate in the survey was chosen based on the information published by the RA SC on the number of the RA Industrial Organizations and their output volumes. The number of companies

that took part in the survey was 74. As it was mentioned the AHP method was used for competitiveness assessment, assuming the construction of a hierarchy of all factors determining competitiveness, and it allows step-by-step assessment identifying the effects of these factors on overall competitiveness. The AHP method with 4 levels of factors determining the competitiveness of industrial organizations based on the AHP method is presented in Figure 6, the levels and the factors of which was chosen based on the study of academic literature⁸.

ANALYSIS OF THE GENERAL INSIGHTS AND MAIN POINTERS OF INDUSTRIAL ORGANIZATIONS IN THE RA

Information on output volumes of industrial organizations, sales markets, number of employees, productivity by economy sectors in the Republic of Armenia is published in the statistical digests "The main indicators of industrial organizations according to the five-digit classification of economic activity" published annually by the Statistical Committee of the RA⁹. The current analysis is based on those publications and includes the period of 2010-2019.

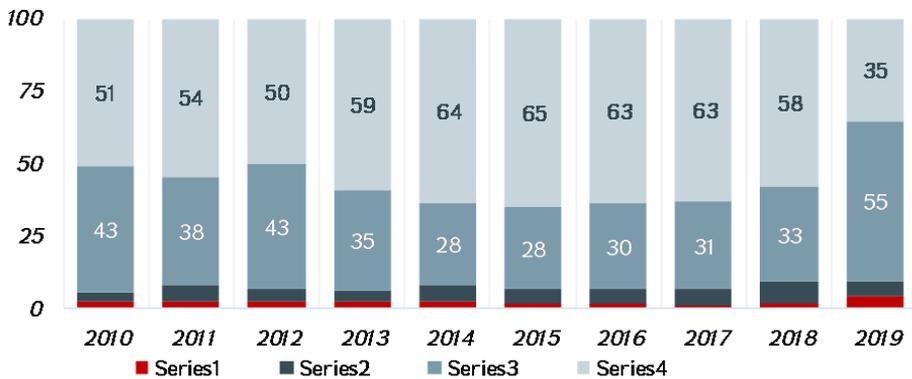


Figure 2. Composition of organizations operating in the field of manufacturing industry, by number of employees, percent¹⁰

The above-mentioned publication for 2019 includes data of 3179 organizations, 2788 of which are operating in the manufacturing industry. Most of the latter (about 55.5 percent) were small enterprises (employing from 10 to 50 employees)¹¹. About 35 percent of the total number of organizations were

⁸ Moonhyang, Oh, Seongseop, Kim, & Aejuo, Lee (2013). Development of an Evaluation Scale for Inter-Country Tourism Industry Competitiveness using the Delphi Technique and Analytic Hierarchy Process, International Journal of Tourism Sciences, 13:2, 1-32, DOI: 10.1080/15980634.2013.11434671
 Sajee, B., Sirikrai, John, C.S., Tang (2006). Industrial competitiveness analysis: Using the analytic hierarchy process, Journal of High Technology Management Research 17, pp. 71-83

⁹ The bulletins are prepared on the basis of the data of the statistical reports provided by the industrial organizations (including individual entrepreneurs) to the Statistical Committee of the RA, as well as the volume of products issued by the economic small business entities not included in the monthly statistical monitoring.

¹⁰ Source: "Main indicators of industrial organizations according to the five-digit classification of economic activity" annual statistical bulletins, Statistical Committee of the RA.

¹¹ The division of organizations by their size was done according to the following approach: organizations with up to 10 employees are classified as micro enterprises, those, employing from 10 to 50 employees, are classified as small, from 50 to 100 as medium, and organizations with more than 100 employees as large.

micro-enterprises (employing up to 10 employees), 5.1 percent - medium-sized (from 50 to 100 employees), and 4.4 percent - large enterprises (more than 100 employees). The structure of the organizations, especially the weights of small micro-organizations, significantly changed in 2019. Thus, in 2010-2018, micro-enterprises on average make up 58.4 percent of the total number, while in 2019, that share was about 35 percent, and the share change of the small ones was from 34.3 percent (2010-2018) to 55.5 percent (2019).

Such a change can be explained by the reduction of unregistered employees due to the improvement of tax administration, in the result of which the average number of employees per year increased, and many organizations transformed from micro to small.

The structure of output and export volumes according to the size of companies operating in the manufacturing industry tangibly differs from the shares noted above. Thus, in 2019, only 4.4 percent of the total number of companies is large, but they account for about 27 percent of the total output. Medium-sized companies fill in 24.5 percent of total output, while small companies account for 32.4 percent. Micro-enterprises, which account for 35 percent of the total result, produce about 16.5 percent of the output. In case of those companies, in 2019, the structure of organizations has changed significantly in favor of small to medium-sized organizations.

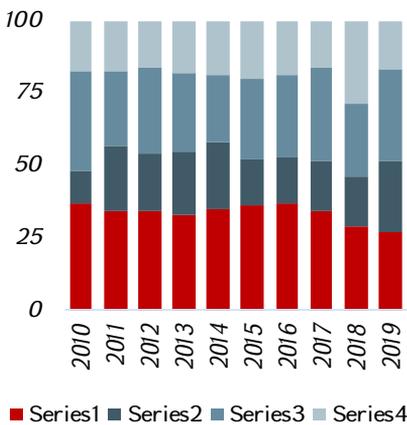


Figure 3. Manufacturing industries output shares in total output by organizations size, percent

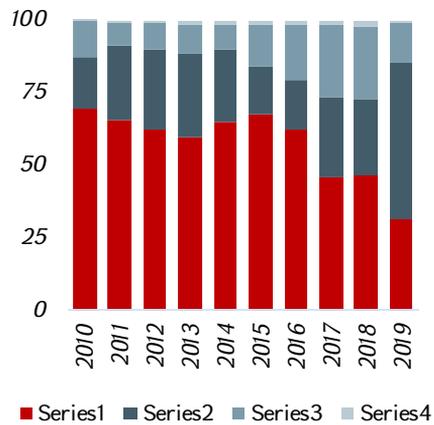


Figure 4. Manufacturing industries export share in total export by organizations size, percent

The structure of export volumes by the size of companies also underwent noticeable changes in 2019, but in this case, there were significant changes in previous years as well. The participation of the large-scale organizations in export volumes has been continuously decreasing since 2016 (From 67.8 (2015) to 31.3 percent (2019)). Instead, the share of medium-sized enterprises increased significantly from 25 to 53.8 percent during the same period.

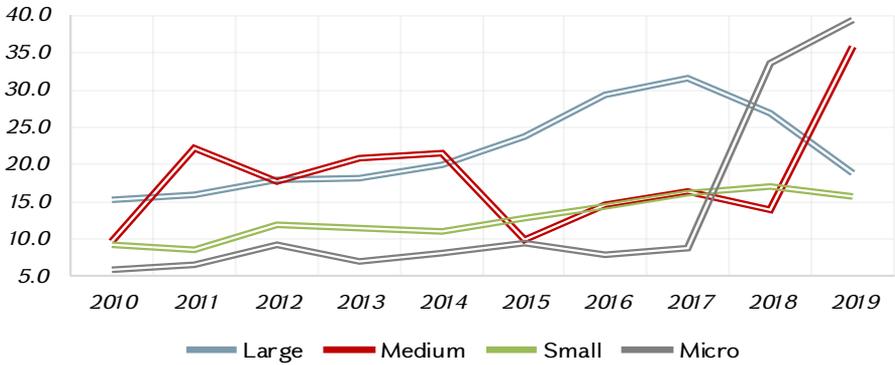


Figure 5. Output per employee, according to the size of the organization, million drams

It is noteworthy that in recent years the share of medium-sized enterprises in the total number of industrial organizations has not increased, so the relative growth of both of their output and export volumes indicates their expansion and increasing efficiency. Figure 5 presents the output per capita dynamics by company size. Those data are calculated as a ratio of output to the average annual number of employees (but to get productivity it was necessary to use added value per employee), and they show that the efficiency of medium-sized and micro enterprises has increased in recent years, leading to an increase in the role of organizations of those groups in both output and export volumes.

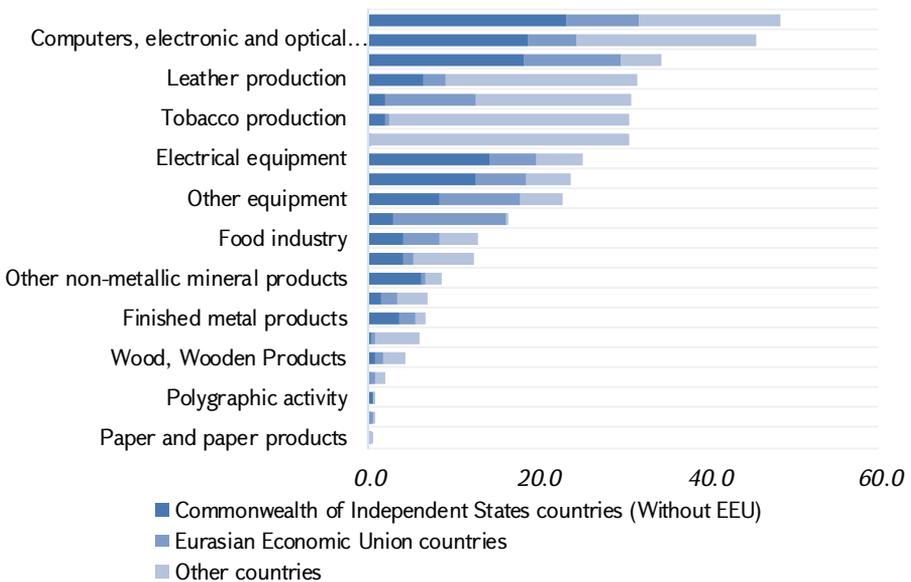


Figure 6. Export weights in total output by sectors and destinations, 2010-2019 average, percent

The indicators published by the Statistical Committee of the Republic of Armenia also provide an opportunity to study the share of exports in total output of each sector. Thus, according to the average data observed in 2010-2019,

productions of pharmaceutical products and computer-electronic products are distinguished by the large share of export, about 50 percent of which are exported and the main export destinations of these goods are the Commonwealth of independent states countries. Leather, tobacco, basic metals, on the other hand, had a large volume of exports to other countries. The production of paper, polygraphic "Repair and installation of machinery" equipment (this group consists of a large extent of repair and installation) stands out with rather low export shares.

ANALYSIS OF FACTORS AFFECTING THE MAIN INDICATORS OF INDUSTRIAL ORGANIZATIONS

Table 1 summarizes the assessment results of impact of productivity (L_Prod_n) on nominal production volumes¹² (L_Productivity), average number of employees (Emp_average) and export weight (Exp_share) in total output.

Data used in the regression was transformed into logarithmic form, and to ensure the presence of stationarity in series, the first differences of them were calculated.

Table 1

The regression summary of the assessed impact on production volumes (data including all organizations)

Fixed-effects (within) regression	Number of obs	=	1,617
Group variable: Sectors	Number of groups	=	211
R-sq:	Obs per group:		
within = 0.6501	min =		1
between = 0.8705	avg =		7.7
overall = 0.6647	max =		9
	F(3,1403)	=	868.97
corr(u_i, Xb) = 0.2098	Prob > F	=	0.0000

D.L_Prod_n	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
Emp_Average					
Dl.	.0016363	.0002786	5.87	0.000	.0010899 .0021827
L_Productivity					
Dl.	.8209564	.0164725	49.84	0.000	.7886431 .8532697
Exp_share					
Dl.	.0045173	.0006478	6.97	0.000	.0032466 .0057881
_cons	.0335973	.0109669	3.06	0.002	.0120841 .0551106
sigma_u	.41073043				
sigma_e	.43826543				
rho	.46760164	(fraction of variance due to u_i)			

F test that all u_i=0: F(210, 1403) = 1.63

Prob > F = 0.0000

¹² Productivity in the models is defined as the output per employee.

Table 2

**The regression summary of the assessed impact on export share
(data including all organizations)**

Fixed-effects (within) regression	Number of obs	=	1,615
Group variable: Sectors	Number of groups	=	209
R-sq:	Obs per group:		
within = 0.0521	min =		1
between = 0.0000	avg =		7.7
overall = 0.0500	max =		9
	F(3,1403)	=	25.70
corr(u_i, Xb) = -0.0491	Prob > F	=	0.0000

D.Exp_share	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
Emp_Average Dl.	-.0154349	.0112849	-1.37	0.172	-.0375721	.0067022
L_Productivity Dl.	-3.277576	.9299895	-3.52	0.000	-5.101896	-1.453256
L_Sales Dl.	7.783388	.9528249	8.17	0.000	5.914273	9.652503
_cons	.8148065	.4426199	1.84	0.066	-.0534616	1.683075
sigma_u	10.986409					
sigma_e	17.6476					
rho	.27931103	(fraction of variance due to u_i)				

F test that all u_i=0: F(208, 1403) = 0.95

Prob > F = 0.6674

In the next stage, the analysis of the factors influencing the export shares was carried out. In this case, the models include the share of exports in total output as a dependent variable, and the average number of employees, productivity, total output as independent variables. The obtained estimates deviate from expectations. In particular, productivity growth and the number of employees has a negative effect on the share of exports, and the total volume of sales has a positive effect. In particular, it turns out that productivity growth and the number of employees have a negative effect on the share of exports, and the total volume of sales has a positive effect. The coefficient of productivity impact on the share of exports is significant. Almost the same result we have got when the model includes only exporting companies that export at least 10 percent of their production (see Table 2.1).

Summing up the model estimates, it can be noted that productivity growth has historically been the main driving force behind the output of the manufacturing industry. The increase in production, in turn, led to an increase in the share of exports in sales. Therefore, although there is no direct positive link between productivity and export, productivity has contributed to the increase of export share.

years of activity, 24.3% have from 4 to 10 years activity and 32.4% have more than 10 years of business activity (see Figure 8).

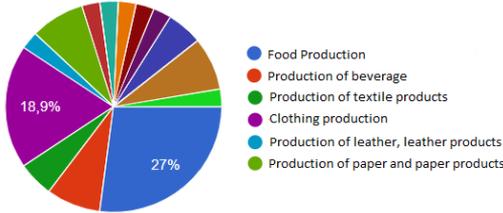


Figure 7. Surveyed organizations by field of activity

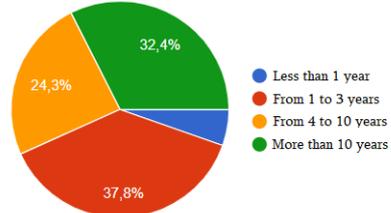


Figure 8. Surveyed organizations by activity period

The sizes of the participants of the survey represent different categories starting from micro companies to large organizations. Almost 32.4% of the companies have less than 25 mln AMD turnover, and almost 24.3% of companies have less than 3 employees. From 25 mln AMD (which is the upper threshold for micro enterprises, that are free of all taxes) up to the VAT threshold – 115 mln AMD, there were 29.7% of total companies. 37.9% of questioned companies have more than 115 mln AMD turnover had, from which 2.8% of companies have more than 1 bln AMD turnover (see Figure 9).

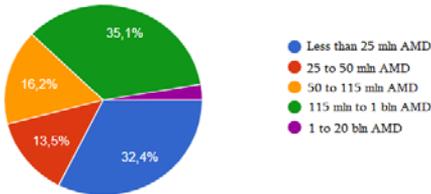


Figure 9. Surveyed organizations by turnover

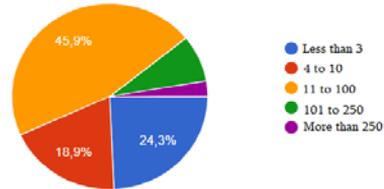


Figure 10. Surveyed organizations by number of employees

One of the most important questions that was asked to the participants was about their export shares, the results of which are presented in Figure 11. Thus, almost 48.6% of the companies have no export at all, 10.8% are exporting up to 10% of their output and 8.1% export more than 91% of their production.

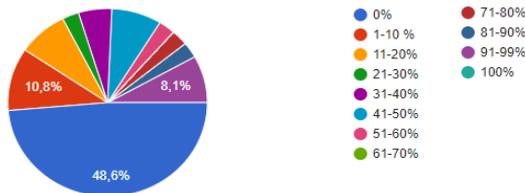


Figure 11. The share of exports in the product sales structure of the surveyed organizations

Besides the questions about the main characteristics of the companies, the questionnaire also included questions about the investment strategy of the companies (see Figure 12). In particular, we tried to find out how much the companies are investing in research and development, in adopting new technologies, in marketing and in human capital.

The results of the survey show that most of the companies spend less than 10% of their total expenditures on directions mentioned above. However, in case of research and development, more than 33% of surveyed companies do not have any spending on that. The companies that do not have any spending on adopting new technologies represent 17.1% of the total surveyed ones, and the companies that do not invest in human capital (measured by expenditures on employee’s trainings) represent 25% of total.

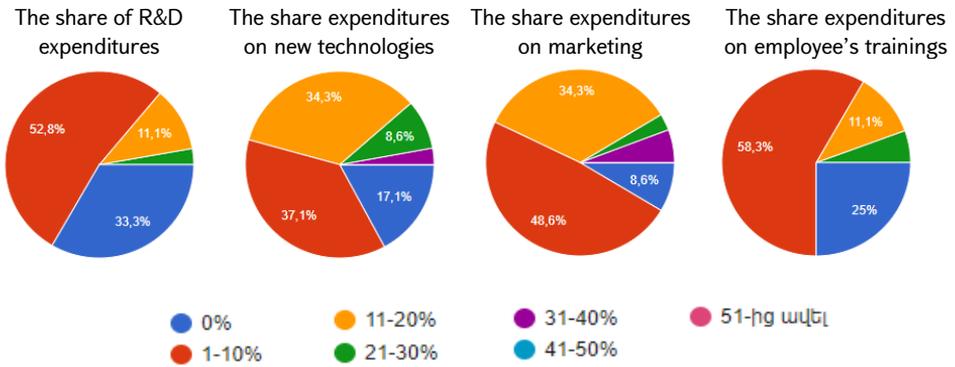


Figure 12. The share of exports in the product sales structure of the surveyed organizations

Having the general view about the main characteristics of the companies and their strategy, next we analyze the importance of the factors affecting their competitiveness. The factors are combined in 7 categories that represent the organization efficiency, conditions in domestic market and the foreign market competitiveness. The seven categories are thus the following.

- Labor market
- Capital market and financial system
- Tax and Customs Policy
- Government institutions
- Competitiveness of Products
- Infrastructure
- Access to foreign markets

Based on the survey results and using the AHP method, we have created the hierarchy of factors affecting the competitiveness that are shown in Figure 13. The factors are colored according to the relevance from the point of view of the surveyed companies. Thus, the factors colored in red are the ones that have the most negative impact on the competitiveness of firms, the yellow-colored factors have moderate effect and the green-colored factors are not considered to be significant obstacles for competitiveness increase. The survey results are also presented based on different characteristics of firms (see Figure 14 and 15), revealing varying importance of the factors affecting competitiveness from the point of view of companies with different characteristics and from different sectors.

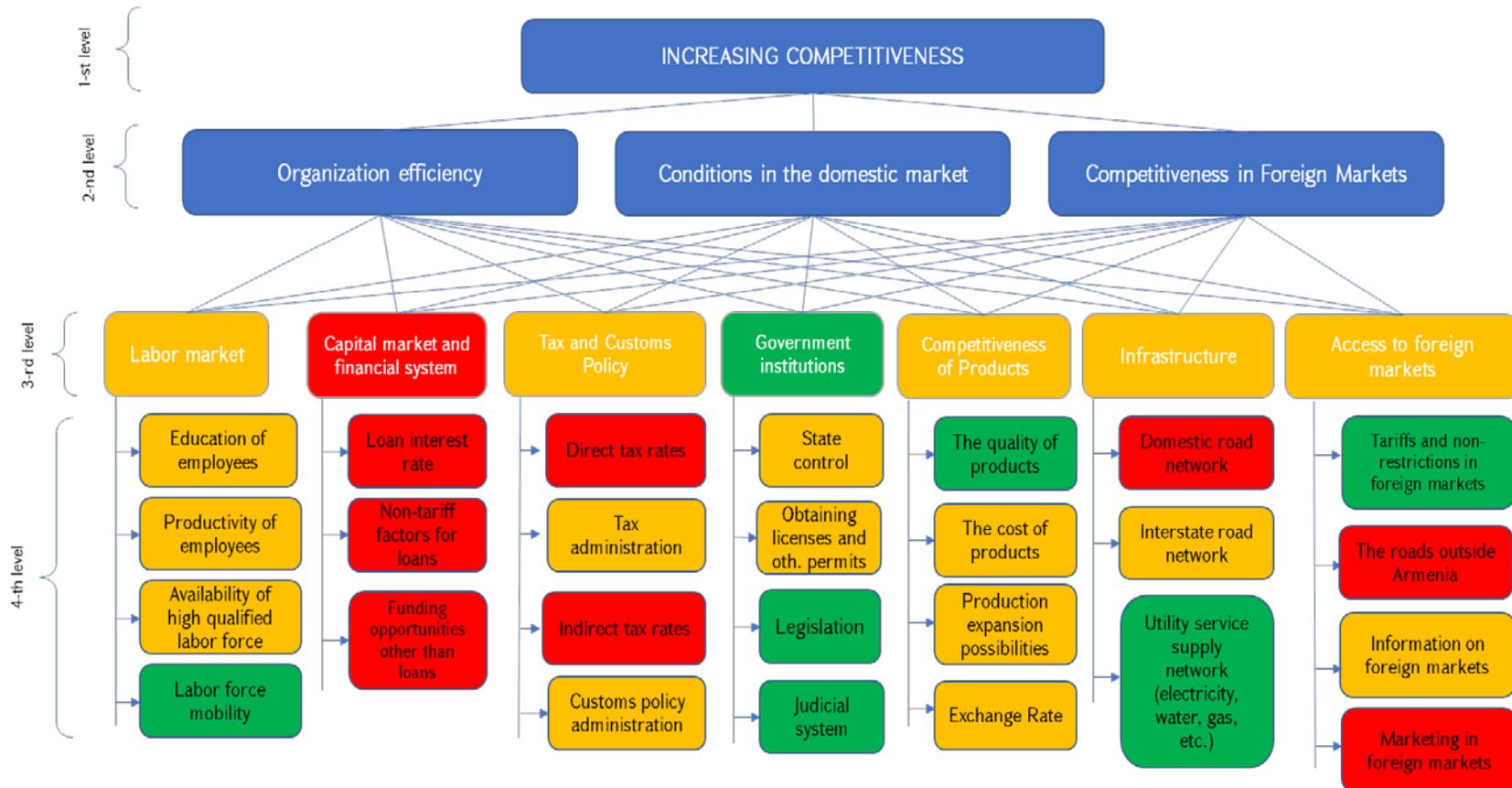


Figure 13. The hierarchy of factors affecting the competitiveness colored based on the survey results

	Answers of Organizations by activity period				Answers of Organizations by amount of turnover					Answers of Organizations by share of exports			Answers of Organizations by sector of activity			
	Less than 1 year	1 to 3 years	4 to 10 years	More than 10 years	Less than 25 mln AMD	25 to 50 mln AMD	50 to 115 mln AMD	115 mln to 1 bln AMD	More than 1 bln AMD	Less than 10%	From 10% to 90%	More than 90%	Food	Clothing	Beverage	Other
Employee education	1.0	2.9	3.1	2.4	2.3	3.4	2.5	2.9	2.0	2.3	3.3	3.5	2.5	2.6	3.3	2.8
Employee productivity	2.0	3.1	3.1	2.8	2.4	3.4	2.8	3.4	2.0	2.7	3.3	3.5	3.0	2.6	2.7	3.1
Direct tax rates	4.0	3.2	3.7	2.2	3.1	3.6	2.3	3.1	3.0	2.7	3.3	3.5	2.8	3.7	2.0	3.1
Indirect tax rates	4.0	3.7	3.9	2.3	4.0	3.6	2.5	2.9	3.0	3.1	3.3	3.5	3.4	4.0	2.0	3.1
Tax administration	3.0	3.2	2.9	1.9	3.1	3.4	2.3	2.2	3.0	2.5	3.1	2.0	2.9	2.9	1.7	2.7
Customs administration	3.0	3.1	2.6	2.0	2.7	3.4	2.5	2.2	3.0	2.5	2.6	2.0	3.3	2.2	1.7	2.4
State control	2.0	2.5	3.8	2.1	2.3	3.0	3.0	2.7	2.0	2.6	2.4	3.0	2.9	2.3	1.7	2.8
Obtaining licenses and oth. permits	2.0	2.8	2.4	2.4	2.4	3.2	2.5	2.3	3.0	2.4	2.8	2.0	2.8	2.2	2.3	2.5
The judicial system	1.0	2.3	2.1	1.8	1.8	3.0	2.2	1.7	2.0	2.0	1.8	2.5	2.4	1.2	1.7	2.1
Legislative framework	2.0	2.4	2.1	2.0	2.6	2.8	1.7	1.8	3.0	2.1	2.2	2.5	2.6	2.3	2.0	1.9
Loan interest rate	4.0	3.9	3.9	3.5	4.2	3.6	4.0	3.5	3.0	3.7	3.9	3.5	3.6	3.8	3.7	3.9
Non-tariff factors for loans	4.0	3.9	4.2	4.0	4.3	3.6	4.3	3.9	3.0	3.8	4.4	4.0	3.8	4.5	4.3	3.9
Funding opportunities other than loans	5.0	4.0	4.2	3.9	4.6	3.4	4.0	4.0	3.0	4.2	4.0	4.0	3.6	4.8	4.3	4.1
Domestic road network	2.0	3.2	3.3	3.7	2.6	3.4	2.7	4.3	3.0	3.1	3.4	4.0	4.1	3.0	2.3	3.2
Utility service supply network (electricity, gas, water)	1.0	2.6	2.3	2.8	1.6	3.6	2.7	2.7	2.0	2.0	3.1	2.5	3.1	2.0	1.3	2.5
Production expansion possibilities	1.0	3.0	3.3	2.1	2.7	4.0	2.5	2.4	2.0	2.8	2.6	2.0	2.8	2.2	2.7	2.9
Product quality	1.0	3.0	1.9	1.9	1.6	3.7	2.8	2.3	1.0	1.7	2.6	2.0	3.0	1.5	1.7	2.4
Product cost	2.0	3.2	2.6	3.1	2.0	3.7	4.3	3.1	2.0	2.5	3.4	2.0	3.4	2.0	2.7	3.3
Exchange rate	1.0	3.4	3.7	4.3	2.4	4.5	4.5	3.9	4.0	2.6	4.4	3.5	4.2	3.0	3.3	3.6
Interstate roads	1.0	2.9	2.8	2.9	2.3	4.0	2.3	3.0	3.0	2.5	2.8	3.0	3.4	2.3	2.7	2.6
Limited export ways outside Armenia	3.0	2.8	3.3	4.1	2.5	4.0	4.0	3.7	3.0	3.1	3.7	3.0	3.8	3.0	2.3	3.6
Lack of alternative transport (rail, affordable)	3.0	3.0	4.2	4.0	3.1	4.0	3.8	3.9	3.0	3.6	3.5	3.5	3.8	3.8	2.7	3.6
Marketing in foreign markets	2.0	3.0	3.5	3.6	2.4	3.0	3.5	4.0	2.0	3.0	3.1	4.0	3.8	3.2	2.3	3.2
Tariff restrictions in foreign markets	2.0	2.9	2.1	2.0	1.9	2.5	2.5	2.8	2.0	2.3	2.2	2.5	4.0	1.8	1.3	2.2
Non-tariff restrictions in foreign markets	2.0	2.2	2.1	2.1	1.7	2.5	2.5	2.4	2.0	2.1	1.9	2.5	3.0	2.0	1.3	2.1
Lack of information on foreign markets	3.0	2.3	3.4	3.4	2.6	2.5	3.8	3.2	3.0	2.9	2.7	4.0	3.0	3.3	2.7	2.9

Figure 14. The importance of the factors affecting competitiveness for different types of companies

	Answers of Organizations by share of expenditures on R&D			Answers of Organizations by share of expenditures on adopting new technologies			Answers of Organizations by share of expenditures on marketing			Answers of Organizations by share of expenditures on trainings of employees		
	0	1% to 10%	More than 11%	0	1% to 10%	More than 11%	0	1% to 10%	More than 11%	0	1% to 10%	More than 11%
Employee education	2.6	2.5	3.7	2.0	3.0	2.7	2.0	2.8	2.7	2.4	2.6	3.4
Employee productivity	2.8	2.8	3.7	3.2	3.2	2.7	2.7	2.8	3.1	2.6	2.9	3.7
Direct tax rates	2.4	2.9	4.5	2.5	3.3	3.0	2.0	2.8	3.5	2.8	2.8	4.1
Indirect tax rates	3.1	3.0	4.5	2.6	3.5	3.3	2.5	2.9	3.7	3.6	2.8	4.4
Tax administration	2.4	2.4	4.2	2.3	3.0	2.6	1.3	2.3	3.4	2.7	2.4	3.6
Customs administration	2.4	2.4	3.5	2.8	2.8	2.4	1.5	2.2	3.1	2.8	2.4	3.0
State control	2.3	2.7	3.2	2.3	2.8	2.7	2.3	2.8	2.6	2.9	2.4	3.0
Obtaining licenses and oth. permits	2.4	2.4	3.2	2.4	2.4	2.6	2.0	2.4	2.7	2.8	2.3	3.0
The judicial system	2.3	1.7	2.4	2.0	2.5	1.6	1.5	2.4	1.7	2.6	1.9	1.7
Legislative framework	2.1	2.1	2.8	1.6	2.2	2.4	1.5	2.2	2.3	2.6	1.9	2.5
Loan interest rate	3.7	3.6	4.3	4.3	3.8	3.6	3.7	3.5	4.1	3.7	3.6	4.4
Non-tariff factors for loans	4.0	3.9	4.3	4.3	3.8	4.1	3.7	4.0	4.1	3.9	4.0	4.4
Funding opportunities other than loans	3.8	4.2	4.3	3.5	4.1	4.3	4.7	3.8	4.3	3.8	4.1	4.6
Domestic road network	3.4	3.3	3.2	3.3	3.6	3.1	2.3	3.5	3.3	3.3	3.2	3.5
Utility service supply network (electricity,	2.5	2.2	3.6	2.7	2.6	2.4	2.0	2.4	2.7	2.7	2.3	3.0
Production expansion possibilities	1.8	2.5	3.8	2.0	2.8	2.9	2.0	2.7	2.7	2.5	2.2	3.9
Product quality	1.4	2.1	3.2	2.2	2.3	2.2	2.0	2.2	2.3	2.3	2.1	2.6
Product cost	2.4	3.0	3.2	3.8	2.9	2.6	2.0	3.0	2.9	2.5	3.1	2.9
Exchange rate	3.6	3.3	4.3	4.2	2.6	3.8	4.0	3.3	3.7	3.3	3.3	4.4
Interstate roads	2.0	2.9	3.0	3.2	2.3	2.8	3.0	2.6	2.8	2.3	2.7	3.2
Limited export ways outside Armenia	3.0	3.4	3.5	4.6	2.9	3.1	3.0	2.8	3.8	2.0	3.5	3.8
Lack of alternative transport (rail, affordable	3.4	3.7	3.3	4.2	3.1	3.6	4.0	3.5	3.6	3.5	3.6	3.6
Marketing in foreign markets	2.6	3.5	3.0	3.6	3.0	3.2	5.0	3.2	3.1	3.5	3.1	3.2
Tariff restrictions in foreign markets	1.2	2.6	2.8	2.8	2.3	2.2	2.0	2.1	2.6	2.3	2.3	2.7
Non-tariff restrictions in foreign markets	1.2	2.5	2.0	2.8	2.1	1.9	2.0	2.1	2.2	2.3	2.2	2.0
Lack of information on foreign markets	2.6	3.1	3.0	3.2	3.0	2.9	5.0	2.9	2.9	3.5	2.9	2.8

Figure 15. The importance of the factors affecting competitiveness for different types of companies

Conclusions. The analysis of the industrial organizations statistics shows that large and medium sized organizations have a small share in total number of industrial companies, however, they make more than 50% of industrial production and more than 80% of industrial products export. However, the efficiency (output per worker) of medium-sized and micro enterprises has increased in recent years, leading to an increase in the role of organizations of those groups in both output and export volumes. This observation was also confirmed with the results of the panel regression analysis, which showed that productivity growth has historically been the main driving force behind the output of the manufacturing industry. The increase in production, in turn, led to an increase in the share of exports in sales. Therefore, although there is no direct positive link between productivity and export, productivity has contributed to the increase of export share.

The results of the industrial competitiveness analysis based on AHP approach show that capital market, financial system and tax rates are the most significant factor that negatively affects competitiveness. The companies report that both high interest rates and non-tariff terms for loans hinder growth of competitiveness in domestic market, as well as in foreign markets. The surveyed companies also mentioned high tax rates (both direct and indirect tax rates) as factors highly affecting competitiveness, while the negative effects of tax and customs administration are perceived lower.

The government institutions, on the contrary, do not have significant negative effects on competitiveness, as companies do not see major problems in legislation and juridical systems in Armenia. However, the lack of state control and inefficient process of obtaining licenses and other permits have moderate effects on competitiveness. Other important difficulties on the way to increased competitiveness are domestic roads and roads outside Armenia, as well as lack of information about foreign markets.

The production itself, based on the opinions of producers, has enough quality to be competitive also in foreign markets, however, the cost of production is high and the possibilities of expansion are limited.

The importance of different factors in terms of competitiveness varies for companies with different characteristics (see Figure 14 and Figure 15). For example, the tax rates are not a significant issue for companies operating more than 10 years and for the companies that work in beverage production sector. The exchange rate is perceived to be overvalued mainly for the companies that are operating more than 3 years, and the longer companies operate, the more severe is the overvaluation perceived. The similar pattern is observed in case of domestic road network, the longer the companies operate, the more problems they see in road system, while for new companies it is not considered as an obstacle for competitiveness.

On the other hand, high interest rates and non-tariff measures on loans, as well as the absence of alternative financing instruments are significant issues for all companies. The same can also be said about the lack of alternative transportation ways outside Armenia, and poor condition of the roads. The issues related to marketing in foreign markets and deficiency of information on foreign markets seem to concern almost all companies.

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ԳԱՅԱՆԵ ԱՎԱԳՅԱՆ

Հայաստանի պետական ​​​​տնտեսագիտական ​​​​համալսարանի մակրոէկոնոմիկայի ամբիոնի դոցենտ, տնտեսագիտության թեկնածու

ՔՆԱՐԻԿ ՎԱՐԴԱՆՅԱՆ

Հայաստանի պետական ​​​​տնտեսագիտական ​​​​համալսարանի մակրոէկոնոմիկայի ամբիոնի դոցենտ, տնտեսագիտության թեկնածու

ԳԱՐԻԿ ՊԵՏՐՈՍՅԱՆ

Հայաստանի պետական ​​​​տնտեսագիտական ​​​​համալսարանի մակրոէկոնոմիկայի ամբիոնի ասիստենտ, տնտեսագիտության թեկնածու

ՄԻՔԱՅԵԼ ՆԱՎԱՍԱՐԴՅԱՆ

Հայաստանի պետական ​​​​տնտեսագիտական ​​​​համալսարանի մակրոտնտեսագիտության ամբիոնի ասպիրանտ

ԱՆԴՐԱՆԻԿ ՄԱՐԳԱՐՅԱՆ

Հայաստանի պետական ​​​​տնտեսագիտական ​​​​համալսարանի տնտեսագիտություն մասնագիտության «Տնտեսության պետական ​​​​կարգավորում» կրթական ծրագրի մագիստրանտ

«Հարյունաբերական կազմակերպությունների արտադրողականության և մրցունակության վրա ազդող հիմնական գործոնների բացահայտումը».– Տնտեսության անցումը միջազգային ավելի մրցունակ և արդյունավետ համակարգի պահանջում է գոյություն ունեցող արդյունաբերության վերափոխում՝ առաջնահերթություն տալով բարձր արտադ-

րողականության գործունեությանը նորարարական տեխնոլոգիաների միջոցով: Դրան հասնելու համար նախ անհրաժեշտ է ուսումնասիրել արդյունաբերության ներկա իրավիճակը, որոշել հիմնական միտումներն ու առանձնահատկությունները, այնուհետև իրականացնել հստակ քաղաքական միջոցառումներ՝ ուղղված վերափոխման քաղաքականության մշակմանը: Հոդվածում վերլուծություն է կատարվել Հայաստանի Հանրապետությունում արդյունաբերական կազմակերպությունների քանակի, դրանց արտադրանքի ծավալների և արտահանման ձևերի վերաբերյալ: Վերլուծությունը համալրվել է հարցումով, որի նպատակը հայկական ընկերությունների մրցունակության հիմնական գործոնների հայտնաբերումն է ներքին և արտաքին շուկաներում: Ըստ այդմ՝ նպատակադրվել է բացահայտել ընկերությունների հիմնական բնութագրերի, ներդրումային ռազմավարությունների վերաբերյալ տեղեկատվությունը, ինչպես նաև կազմակերպությունների տեսանկյունից մրցունակության գործոնների կարևորությունը:

Հիմնաբառեր. արդյունաբերություն, մրցունակություն, հարցում, արդյունաբերական ընկերություններ, արտադրողականություն

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Магистрант образовательной программы «Государственное регулирование экономики» по специальности экономиста Армянского государственного экономического университета

Выявление основных факторов, влияющих на производительность и конкурентоспособность промышленных организаций РА. – Переход экономики к более конкурентоспособной на международном уровне и эффективной системе требует трансформации существующей промышленности с упором на высокопроизводительную деятельность,

осуществляемую с помощью инновационных технологий. Для этого сначала необходимо изучить текущую ситуацию в отрасли, определить ее основные тенденции и особенности, а затем на основе этой информации принять конкретные политические меры, направленные на разработку политики трансформации. С этой целью в данной статье был проведен анализ количества промышленных организаций в Республике Армения, объемов их производства и видов экспорта. Анализ был дополнен опросом, направленным на выявление основных факторов конкурентоспособности армянских фирм на внутреннем и внешнем рынках. С этой целью опрос был разработан таким образом, чтобы охватить информацию об основных характеристиках компаний, их инвестиционных стратегиях, а также важности каждого фактора конкурентоспособности с точки зрения самих компаний.

Ключевые слова: *промышленность, конкурентоспособность, опрос, промышленные компании, производительность*

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