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IMPACT ASSESSMENT OF FISCAL DECENTRALISATION ON MACROECONOMIC STABILITY FACTORS (THE ARMENIAN CASE)

The paper aims at revealing the existing connection between fiscal decentralization and macroeconomic stability indicators. Within the framework of the research, we evaluated the impact of the fiscal decentralization indicators of the Republic of Armenia on the indicators characterizing macroeconomic stability. The analysis was performed by econometric modeling, linear regression models were compiled using the statistical software "EViews". The indicators characterizing macroeconomic stability were considered as dependent variables, and the indicators characterizing fiscal decentralization as independent variables. As a result, it became clear that most of the indicators characterizing fiscal decentralization have a significant impact on some macroeconomic indicators. This indicates the need for further deepening of decentralization processes for balanced regional development.

Introduction: The economic growth and sustainable human development of countries are hindered not only by socio-economic factors, disproportionate territorial development but also weak grounds for fiscal decentralization.[1] In democratic countries, the system of local self-government is formed based on the following approach: some of the state powers need to be transferred to a system where their implementation is more cost-effective and controllable, and can be operatively managed. Local government bodies are accepted as such a system because they are more aware of certain community issues, resource availability and population preferences. They respond quickly to any changes and trends and are accountable to the community population for their policies. Decentralization makes it possible to avoid excessive centralization of power in central bodies. This increases the efficiency of the central government, as it relieves them from overloading, which allows them to focus on solving the problems that remain within their competence. Another positive side is that due to decentralization the government approaches the people; the people participate in the political process. In 2011, the Government of the RA adopted a paper "Concept of Community Enlargement and the Formation of Inter-Community Associations", which laid a de facto basis for the deepening of the processes of decentralization of public administration. The concept was aimed at strengthening the capacity of communities, further development of the system of local self-government, thus promoting balanced territorial development and the stability of the national economy. Scientific discussions on the link between macroeconomic stability and fiscal decentralization reveal the need to consider this link in the context of balanced territorial development and community enlargement. In this paper, we will present the impact of fiscal decentralization on macroeconomic stability factors, thus taking a step towards the development of community economies and the elimination of territorial disparities.

Literature Review: The issue of decentralization has been discussed in various scientific communities around the world. Despite its popularity, the effectiveness of decentralization remains highly debated, and its effect on the development has not been fully studied.[2] There are many economic arguments for decentralization (promotion of participatory governance, reduction in operating costs, effective governance, etc.), but the main and weighty argument is the clear distribution of public administration bodies, the principle of interconnection of the local governments is complementary, according to which the upper tier of the public administration system should not be assigned what the smaller tier can do better.[3] Fiscal decentralization is the process of delegation of fiscal responsibili-

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[1] **Karapetyan Ts. J., Muradyan A., Yeranosyan V., Sahakyan A., Abrahamyan N., Alikhanyan S., Grigoryan E., Khachatryan L.,** The Impact of Community Economy Development and Decentralization on Ensuring Macroeconomic Stability in the Republic of Armenia, Amberd Research Center, 3-11 (in Armenian), 2018-2019.

[2] **Faguet, Jean-Paul.,** Does Decentralization Increase Government Responsiveness to Local Needs? Journal of Public Economics. 88 (3–4): 2004, pp. 867–893.

[3] School of Local Democracy, "Decentralization of Governance, Administrative Reform, Inter-Community Cooperation", 1-18 (in Armenian), 2019, http://celog.am/UploadedFiles/TrainigMaterials/T06_DecentrTerrReforms.pdf

ties to the sub-national governments, involving devolution of powers to tax and spending along with arrangements for correcting the imbalances between resources and obligations. Fiscal decentralization occurs through devolution of responsibilities for public spending and revenue collection from the central to local governments.[4] Decentralization theories have been discussed by different authors, in general the two main theories of decentralization are distinguished traditional theories ("first generation") and "second generation" fiscal decentralization. The protagonists of traditional theories of decentralization and fiscal federalism are Tiebout (1956), Musgrave (1959), Oates (1972) and Olson (1969) and other researchers. The economic case of decentralization in this literature is based on the argument that the devolution of authorities (especially tax and expenditure authority) leads to the greater efficiency of the public sector.[5] Oate mentions that decentralized central government system is able to more efficiently provide public services, and this has a positive effect on the increase of the welfare of citizens.[6] The primary result derives from the reality that local self-government bodies are more aware of citizens' problems, more flexible and adaptive to meeting the needs of citizens than higher-level bodies. The major difference between central and local provision of public goods is that at the central level the preferences of the consumer-voter are given, and the government tries to adjust to the pattern of these preferences, whereas at the local level various governments have their revenue and expenditure patterns more or less set. Given these revenue and expenditure patterns, the consumer-voter moves to that community whose local government satisfies best his set of preferences. The greater the number of communities, the greater the variance among them, the closer the consumer will come to fully realizing his preference position.[7] Beyond the theoretical expectations, the empirical evidence on the relationship between decentralization and fiscal stability offers mixed results. Several studies find that tax autonomy and borrowing rules can lead to improved fiscal discipline, however, the effectiveness of tax autonomy as a disciplining factor is questionable in several other studies, also using panel data, as producing negative results or being insignificant.[8] One of the empirical studies found a positive significant impact of fiscal decentralization on macroeconomic stability. Moreover, revenue decentralization has a stronger impact than expenditure decentralization.[9] Most authors arguing over the usage of fiscal decentralization as a policy option in developing and transitional economies have

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[4] **Iqbal, Nasir and Nawaz, Saima,** Fiscal Decentralization and Macroeconomic Stability: Theory and Evidence from Pakistan, Pakistan Institute of Development Economics Islamabad Pakistan, 2010, pp. 1-20.

[5] **Jorge Martinez-Vazquez, Santiago Lago-Penas, Agnese Sacchi*,** The impact of fiscal decentralization: a survey, Journal of Economic Surveys Vol. 00, No. 0, 2016, pp. 1–35.

[6] **Oates, W.** Decentralization and economic development. National Tax Journal 46: 237–243.

[7] **Charles M. Tiebout,** (Oct., 1956), A Pure Theory of Local Expenditures, The University of Chicago Press, The Journal of Political Economy, Vol. 64, No. 5, 1993, pp. 416-424.

[8] **Iqbal, Nasir and Nawaz, Saima,** Ibid, pp. 1-20.

[9] **Hina Ali, Mehvish Batool,** Fiscal Decentralization and Macroeconomic Stability: Theory and Evidence from Pakistan, Pakistan Journal of Humanities and Social Sciences, Jan – June 2017, Volume 5, No. 1, 2017, pp. 1-14.

implicitly recognized the potential influence of fiscal decentralization on macroeconomic stability.[10] It is mentioned by Rodden that in decentralization processes, it may be problematic that in developing and transition economies, subnational governments do not have sufficient capacity and financial resources to carry out their delegated powers compared to the central government.[11] The classical view of this issue contends that macroeconomic policy should solely be the responsibility of the central government and not at all the responsibility of subnational governments. More recently, a number of authors have argued that devolving at least some measure of macroeconomic policy to subnational governments can promote, not hinder, macroeconomic stability.[12] First-generation advocates argue that fiscal decentralization has potential trade-offs in economic outcomes, such as a more equal distribution of resources across regions or macroeconomic stability.

Proponents of the second-generation theory put forward another principle of fiscal decentralization, which assumes that government officials are selfish, have their own ambitions and interests, and are guided by their own agendas. The beneficial economic consequences of federalism results from the political decentralization of economic authority that induces competition among the lower political units. Something must provide durability to the limits on the central government's authority to regulate directly, to usurp that authority, or simply to remove its earlier grant of the authority to the lower levels, otherwise the real effect of decentralization will not be perceptible.[13] The second generation fiscal federalism examines the work of different political and fiscal institutions in a setting of imperfect information and control with a basic focus on the incentives that these institutions embody and the result of the behaviour they introduce from utility-maximizing participants.[14] A further number of authors argue over the issue that ignoring the budget constraints may lead to macroeconomic instability depending on the fiscal imbalances. The main counter-argument against decentralization is that the central government is more effective in producing public goods, because of better access to resources, technologies, and other inputs. Decentralization can also weaken the capability of the central government to implement fiscal policy because it has fewer resources and spending options to work with.[15]

Furthermore, there are also studies in the Armenian literature aimed at revealing the impact of decentralization on macroeconomic stability. In

[10] **Jorge Martinez-Vazquez, Robert M. McNab,** Fiscal Decentralization, Macrostability, and Growth, Georgia State University, 2006, pp. 1-27

[11] **Jonathan Rodden,** The Dilemma of Fiscal Federalism: Grants and Fiscal Performance around the World, Massachusetts Institute of Technology, 2001, pp. 1-18.

[12] **Jorge Martinez-Vazquez, Robert M. McNab,** Fiscal Decentralization, Macrostability, and Growth, Georgia State University, 2006, pp. 1-27.

[13] **Barry R. Welngast,** The economic role of political institutions: Market-preserving federalism and economic development, The Journal of Laws, Economics, & Organization V11, N1, 1995, pp. 1-31.

[14] **Wallace E. Oates,** Toward A Second-Generation Theory of Fiscal Federalism, International Tax and Public Finance, 12, 2005, pp. 349–373.

[15] **Tristan Canare, Jamil Paolo Francisco,** Decentralization, Fiscal Independence, and Poverty in the Philippines, Public Financial Publications, Inc., 2019, pp. 1-24.

particular, there is a direct dependence of the macroeconomic stability index on community budget expenditures and targeted subsidies from the state budget.[16] Another study found that fiscal decentralization has no (positive) effect on poverty, unemployment and economic activity, but has a significant positive impact on social services, and this relationship varies by administrative unit.[17] Financial stability and independence of communities determines the continuous development of not only the local self-government system but also the whole country, therefore, the solid foundations of financial decentralization are severely undermined.[18] Taking into account the results of the above mentioned, we can conclude that the links between decentralization and macroeconomic stability have not yet been fully explored. Therefore, in this study, we want to identify and present the links of decentralization indicators and macroeconomic stability factors based on the Armenian case.

Research Methodology: The paper discusses the impact of the RA decentralization indicators on the factors characterizing the macroeconomic stability. In the professional literature decentralization is characterized by using the following indicators: GDP, community budget revenues/expenditures, total budget revenues/expenditures.[19,20] Thus, the aforementioned indicators were also used in the frames of the following research. In the process of assessing the indicators of macroeconomic stability, we were guided by the factors presented in the professional publications of management, as well as the methodology provided by the Statistical Committee of the RA.[21,22] A linear regression model was developed using the E-views computer analytics package to assess the subsequently mentioned impacts based on 2000-2020 data. The indicators were selected from the main factors characterizing macroeconomic stability, which are widely used by the scientific community, and the decentralization indicators were taken to describe the structure of community budget expenditures and revenues, especially own revenues, which mainly characterize the degree of financial independence of the community.

In this paper, we discussed the impact of decentralization indicators (community budget expenditures/total budget expenditures, community budget revenues/total budget revenues, community budget expenditure/GDP) on

[16] **Ts. J. Karapetyan, A. Muradyan, V. Yeranosyan, A. Sahakyan, N. Abrahamyan, S. Alikhanyan, E. Grigoryan, L. Khachatryan,** The Impact of Community Economy Development and Decentralization on Ensuring Macroeconomic Stability in the Republic of Armenia, Amberd Research Center, 3-11 (in Armenian). 2018-2019.

[17] **Tatul Mkrtchyan, Narek Karapetyan,** Impact of fiscal decentralization on the socio-economic development of the RA, Messenger of ASUE (2019.2), 2019, pp. 1-11.

[18] **Tatev Hakobyan,** (2019), The Impact of Community Enlargement on the Local Self-Government System of the Republic of Armenia, Messenger of ASUE (2019.2), 1-8.

[19] **Ahmad Zafarullah Abdul Jalil, Mukaramah Harun, Siti Hadijah Che Mat,** Macroeconomic instability and fiscal decentralization: an empirical analysis, Prague economics papers, 2, 2012, pp. 1-16.

[20] **Junghun Kim and Sean Dougherty,** Fiscal Decentralisation and Inclusive Growth, OECD Fiscal Federalism Studies, 2016, pp. 1-258.

[21] **Rajeev K. Goel and James W. Saunoris,** Forms of Government Decentralization and Institutional Quality: Evidence from a Large Sample of Nations, No 562, 2016, pp. 1-23.

[22] The Statistical committee of the RA, Macroeconomic Indicators, 2018, pp. 1-2.

inflation rate, nominal GDP (hereinafter GDP), external trade, external debt, average monthly wage, budget deficit consumer price index, corruption rate, population, good government index, unemployment rate. The data sample is 20, which is due to the lack of additional data. The small size of the sample usually causes "false" results of the model, however, to avoid that we carried out the impact assessment separately.[23]

The information regarding the data was obtained from various sources, specifically from:

- the data on assessing the decentralization indicators – from the official website of the Government of the Republic of Armenia,[24]
- the data on macroeconomic factors - from the official website of the Statistical Committee of the Republic of Armenia.[25]

The best model was evaluated through the "E-views" software package, based on which the econometric model was evaluated. A number of statistical tests were performed to check the significance of the model results.

Analysis: Before returning to the discussion of the above-mentioned connection, let us present the dynamics of the decentralization indicators of the Republic of Armenia during 2000-2020.
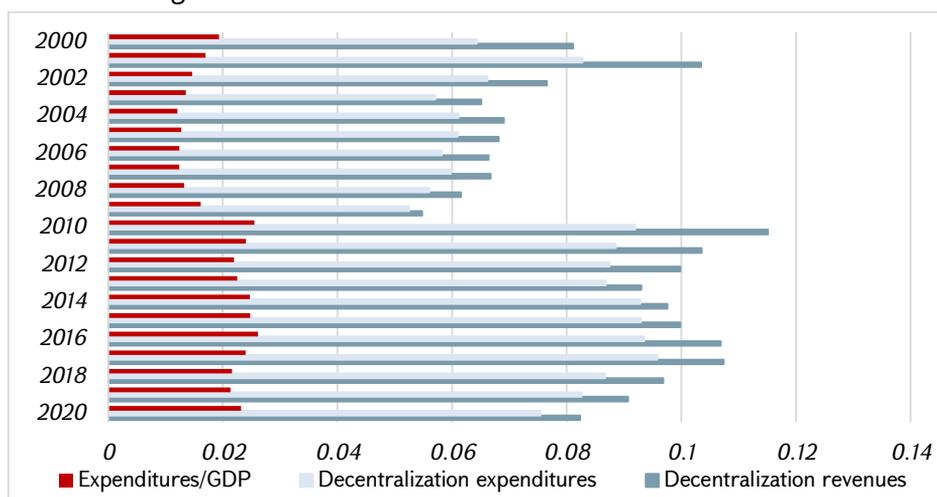

Figure 1.   *The dynamics of the decentralization indicators of the RA during 2000-2020[26]*

From figure 1 it becomes obvious, that the decentralization indicators declined from 2002 to 2010, then they increased until 2017 (exceeding the rates of 2000), but the indicators started again to decrease from 2018. Examining the

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[23] **Leonid Melnyk, Lina Sineviciene, Oleksii Lyulyov, Tetyana Pimonenko, Iryna Dehtyarova,** Fiscal decentralization and macroeconomic stability: the experience of Ukraine's economy, Problems and Perspectives in Management, 16(1), 2018, pp. 105-114.

[24] Official website of the Government of the RA, online https://www.gov.am/am/budget/

[25] The Statistical committee of the RA, online https://armstat.am/am/?nid=12&id=01510

[26] The figure was created by the authors

dynamics, it can be understood that the process of community consolidation started in 2015 is a positive development of financial independence, but the process has slowed down in recent years, which we think will intensify after the consolidation of communities in 2021.

Let us for now focus our attention on the results of the model. In the linear regression model the following variables are selected: **independent variables:** DecExp (Community budget expenditures/Total Budget expenditures), DecRev (Community budget revenues/Total Budget revenues), CE/GDP (Community expenditure/Gross Domestic Product); **dependent variables:** GDP (Gross Domestic Product), IR (Inflation rate), ET (External trade), ED (External debt), AMW (Average monthly wage), BD (Budget deficit), CPI (Consumer price index), CR (Corruption rate), Ur (Unemployment rate) logarithmic indicators. The indicators included in the model have different units of measurement, thus, the logarithms of the indicators have been used to exclude different units of measurement and to avoid unnecessary deviations. For the evaluation of the econometric model, first we need to check the stationarity of the time series, which was checked via "Unit root" test (Augmented Dickey-Fuller test was used). The results are presented in Table 1.

Table 1

Augmented Dickey-Fuller test results[27]

| Variables | Intercept | | | | Trend and Intercept | | | |
| | Level | | First difference | | Level | | First difference | |
	t-stat	p-value	t-stat	p-value	t-stat	p-value	t-stat	p-value
LN(BD)	-2.5376	0.1228	-5.2609	0.001	-4.3321	0.0167	-5.0757	0.0039
LN(ET)	1.07528	0.9955	-4.054	0.007	-0.9749	0.9239	-3.3746	0.0882
LN(ED)	0.00771	0.9482	-3.8835	0.010	-1.9933	0.5678	-3.7967	0.0414
LN(CPI)	-2.80871	0.0805	-6.828	0.000	-3.0822	0.145	-6.588	0.0003
LN(Ir)	-3.41128	0.0236	-6.8305	0.000	-3.4306	0.0769	-4.8032	0.0072
LN(CE/GDP)	-5.11818	0.0007	-10.544	0.000	-6.8257	0.0001	-4.163	0.0277
LN(DecEXP)	-4.62243	0.0019	-8.48607	0.000	-4.5125	0.0104	-8.364	0.000
LN(DecRev)	-3.04562	0.0482	-5.4168	0.0004	-3.0045	0.1566	-4.4414	0.0147
LN(GDP)	2.55257	0.9999	-3.3922	0.0254	-0.5885	0.9675	-4.01	0.0282
LN(Cr)	-1.92864	0.3131	-4.001	0.0075	-2.2661	0.4304	-4.0075	0.0283
LN(AMW)	-2.22268	0.2007	-5.48075	0.0004	-2.90028	0.1816	-5.3906	0.0022
LN(Ur)	2.72291	0.9999	-3.3212	0.0301	0.0481	0.9925	-5.7762	0.0018

As we can see from Table 1, not all data are stationary at the Intercept level, as the p-value is greater than 0.05 (the null hypothesis of non-stationary is accepted at the 5% significance level). This means that a linear regression model is not applicable in the current case. So, we considered the time series at the First difference level to make the time series stationary. It is clear from Table 1 that the series is stationary. This test allows to evaluate the impact of the data using a linear regression model.

The next step was to assess the impact of decentralization on macroeconomic indicators. We evaluated the correlation between the variables through linear regression using 9 models. The equations are as follows:

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[27] The table was created by the authors on the basis of the data exported from "EViews 12" statistical software.

$$LR = LN\_AMW\_ - (0.0051*LN\_DecExp\_ + 0.1024*LN\_DecRev\_ - \\ - 0.3932*LN\_CExp/Gdp\_) \qquad (1)$$

$$LR = LN\_BD\_ - (1.7857*LN\_DecExp\_ - 1.6398*LN\_DecRev\_ - \\ - 0.6527*LN\_CExp/Gdp\_) \qquad (2)$$

$$LR = LN\_CPI\_ - (0.0099*LN\_DecExp\_ + 0.1338*LN\_DecRev\_ - \\ - 0.6199*LN\_CExp/Gdp\_) \qquad (3)$$

$$LR = LN\_Cr\_ - (0.1937*LN\_DecExp\_ + 0.2283*LN\_DecRev\_ + \\ + 0.5033*LN\_CExp/Gdp\_) \qquad (4)$$

$$LR = LN\_ED\_ - (0.2921*LN\_DecExp\_ - 0.3027*LN\_DecRev\_ - \\ - 0.0441*LN\_CExp/Gdp\_) \qquad (5)$$

$$LR = LN\_ET\_ - (0.6271*LN\_DecExp\_ - 0.4301*LN\_DecRev\_ - \\ - 0.8878*LN\_CExp/Gdp\_) \qquad (6)$$

$$LR = LN\_GDP\_ - (0.0999*LN\_DecExp\_ + 0.0810*LN\_DecRev\_ + \\ + 0.1633*LN\_CExp/Gdp\_) \qquad (7)$$

$$LR = LN\_Ur\_ - (0.3091*LN\_DecExp\_ - 0.5551*LN\_DecRev\_ + \\ + 0.5769*LN\_CExp/Gdp\_) \qquad (8)$$

$$LR = LN\_Ir\_ - (0.0843*LN\_DecExp\_ + 0.0740*LN\_DecRev\_ - \\ - 0.0523*LN\_CExp/Gdp\_) \qquad (9)$$

It is evident from the equation (1) that 1% change of DecExp, DecRev, CExp/Gdp leads to the change of AMW of 0.0051%, 0.10%, 0.39%, respectively. The same interpretation applies to the rest of the equations. It is noteworthy that 1% change of DecExp, DecRev, CExp / Gdp has the largest impact on the budget deficit (1.78%, 1.63%, 0.65%, respectively).

Table 2

LR models[28]

	Variable	Coefficient	Std. Error	t-Statistic	Prob
LN_AMW_	DecExP	0.005165	0.05471	0.094404	0.926
	DecRev	0.102432	0.095454	1.073109	0.2991
	Cexp/Gdp	-0.393261	0.382445	-1.028283	0.3191
LN_BD_	DecExP	1.785772	0.162477	10.99091	0.000
	DecRev	-1.639837	0.283476	-5.784748	0.000
	Cexp/Gdp	-0.652728	1.135772	-0.5747	0.5735
LN_CPI_	DecExP	-0.009967	0.049656	-0.200718	0.8434
	DecRev	0.133832	0.086636	1.54477	0.1419
	Cexp/Gdp	-0.619957	0.347114	-1.786033	0.0931
LN_Cr_	DecExP	-0.193768	0.179512	-1.079413	0.2964
	DecRev	0.228303	0.313198	0.728941	0.4766
	Cexp/Gdp	0.503317	1.254855	0.401096	0.6937
LN_ED_	DecExP	0.292176	0.10792	2.707346	0.0155
	DecRev	-0.302703	0.188289	-1.607653	0.1275
	Cexp/Gdp	-0.04414	0.754396	-0.05851	0.9541
LN_ET_	DecExP	0.627132	0.17117	3.663801	0.0021
	DecRev	-0.430181	0.098108	-4.384788	0.0005
	Cexp/Gdp	-0.887859	0.685807	-1.294619	0.2138
LN_GDP_	DecExP	-0.099988	0.028209	-3.544542	0.0027
	DecRev	0.08104	0.049216	1.646602	0.1191
	Cexp/Gdp	0.163322	0.19719	0.828246	0.4197

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[28] The table was created by the authors on the basis of the data exported from "EViews 12" statistical software.

LN_Ur_	DecExP	0.309109	0.101361	3.049573	0.0076
	DecRev	-0.555198	0.176847	-3.139431	0.0063
	Cexp/Gdp	0.576996	0.708552	0.81433	0.4274
LN_Ir_	DecExP	-0.084323	0.051084	-1.650673	0.1183
	DecRev	0.074014	0.089127	0.830432	0.4185
	Cexp/Gdp	-0.052352	0.357094	-0.146605	0.8853

It is clear from Table 2, that only LN_BD_, LN_ED_, LN_ET_, LN_GDP_, LN_Ur_ are significant at the 5% significance level (P values are less than 0.05, which means that the null hypothesis that the variables are significant is not rejected) from the evaluated models. It is noteworthy that the DecExP variable is significant in all significant models, and the DecRev variable is significant in almost all but the LN_ED_ model (at the 5% significance level, the null hypothesis is rejected (0.1275)). The independent variable Cexp / Gdp is not significant in any evaluated model, so it is advised to remove it from the model and then evaluate it. The picture becomes a little different when we remove the independent variable Cexp / Gdp. Subsequently, that shows that the DecExP and DecRev variables are significant in all rated models in Table 3.

Table 3

LR models with 2 independents variables[29]

	Variable	*Coefficient*	*Std. Error*	*t-Statistic*	*Prob*
LN_BD_	DecExP	1.784844	0.159237	11.20875	0.000
	DecRev	-1.775553	0.153698	-11.55225	0.000
LN_ED_	DecExP	0.292113	0.104703	2.789909	0.013
	DecRev	-0.31188	0.101061	-3.086055	0.007
LN_ET_	DecExP	-0.431443	0.100034	-4.312946	0.001
	DecRev	0.442528	0.096555	4.583186	0.000
LN_GDP_	DecExP	-0.099756	0.027946	-3.569609	0.002
	DecRev	0.114998	0.026974	4.263337	0.001
LN_Ur_	DecExP	0.309929	0.100347	3.088567	0.007
	DecRev	-0.435229	0.096857	-4.493541	0.000

Therefore, from the results of the models it can be argued that decentralization indicators undoubtedly have an impact on macroeconomic factors. Thus, the detection of the correlation between decentralization and macroeconomic factors proves that further deepening and improvement of decentralization of public administration will be the basis for balanced regional development, as well as for improving the macroeconomic situation.

With the initial grand purpose of checking the reliability of the model results, we have conducted diagnostics tests in addition[30]. The residuals of the model have a normal distribution, as the zero hypothesis is not rejected at the Jarque Bera test at the 5% significance level (P values are less than 0.05, which means that the null hypothesis that the variables are significant is not rejected**, LN_BD (**0.046), **LN_ED (**0.012), **LN_ET** (0.031), **LN_GDP (**0.034), **LN_Ur**

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[29] The table was created by the authors on the basis of the data exported from "EViews 12" statistical software

[30] **Min B. Shrestha, Guna R. Bhatta,** Selecting appropriate methodological framework for time series data analysis, The Journal of Finance and Data Science, 2018, pp. 1-19.

(0.048) respectively). Afterwards, we have checked the heteroscedasticity of the error using the Breusch-Pagan-Godfrey test. The null hypothesis is not rejected at the 5% significance level, so we can say that the error is homoscedastic (P values are less than 0.05, which means that the null hypothesis that the variables are significant is not rejected, **LN_BD** (0.0028), **LN_ED** (0.0005), **LN_ET** (0.0011), **LN_GDP** (0.009), **LN_Ur** (0.0041) respectively). In a nutshell, the stability of the models is tested with the Ramsey RESET test. The null test hypothesis (the model is stable) is not rejected at the 5% significance level (P values are less than 0.05, which means that the null hypothesis that the variables are significant is not rejected, **LN_BD (**0.0016), **LN_ED (**0.0054), **LN_ET** (0.0068), **LN_GDP (**0.0019), **LN_Ur** (0.0024) respectively).

To check the presence of auto-correlation in the model, test the Lagrange multiplier test. The null test hypothesis (there is no serial correlation of any order) is not rejected at the 5% significance level (P values are less than 0.05, which means that the null hypothesis that the variables are significant is not rejected, LN_GDP (0.0246), LN_BD (0.0456), LN_ED (0.0374), LN_ET (0.0293), LN_Ur (0.0244) respectively). After the implementation of diagnostic tests, let us consider the coefficient of determination of the model, which is also an indicator of the quality of the model.

From the results of the model, it can be seen that the coefficients of determination and adjusted determination coefficients have quite good indicators (Table 4) which tests the quality of the model, moreover, the indicators are due to the fact that the model does not include other factors.

Table 4

Coefficient of determination[31]

	LN_BD_	LN_ED_	LN_ET_	LN_GDP_	LN_Ur_
R-squared	0.893918	0.36472	0.564442	0.517179	0.553999
Adjusted R-squared	0.881438	0.289981	0.513	0.460376	0.501528

Conclusion: Decentralization and the transfer of powers to the relevant bodies is generally a positive phenomenon, as a result of which public services are provided through bodies closer to the public, which contributes to their effective implementation. Decentralization also allows to avoid excessive concentration of power in the central bodies. This increases the efficiency of the central government, as it relieves their burden of solving some local problems, which allows them to focus on solving the problems that remain within their competence.

As the administrative territorial reforms are being conducted in the RA, the discussion of decentralization issues is very essential for our country. The process of community enlargement, which began in 2011, was a step towards the decentralization of the public administration system. One of the expected outcomes of community enlargement was the increase in the financial independence of communities. The deepening of financial decentralization

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[31] The table was created by the authors on the basis of the data exported from "EViews 12" statistical software.

processes makes it possible to reduce the dependence on subsidies provided by financial equalization, as well as to improve the quality of public services.

During our research we measured the impact of decentralization on macroeconomic indicators. 2 of the decentralization indicators (DecExP, DecRev) had a significant impact on the Budget deficit, External trade, External debt, Gross domestic product, Unemployment rate, and non-significant effect on Corruption rate, Inflation rate, Average monthly wage, Consumer price index macroeconomic indicators. By revealing the existence of the mentioned connection, it makes it possible to consider the reverse connection - the impact of macroeconomic factors on fiscal decentralization. The consideration of this connection is used especially in the context of community enlargement in order to ensure territorially balanced and sustainable development. The results of the analysis make it possible to conclude that decentralization processes have an impact on the macro level, which is very important especially for the countries with transition economies like Armenia. This is especially true in the current situation in Armenia, when a large amount of foreign investment is needed to strengthen and develop the Armenian economy, and as we know, one of the most important preconditions for investors is the country's macroeconomic stability. Therefore, it is necessary to pay proper attention to the operation of decentralization processes further development and mechanisms which will affect both the strengthening of macroeconomic stability and balanced territorial development.

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ՍԱՄՍՈՆ ՊԵՏՐՈՍՅԱՆ
ՀՊՏՀ կառավարման ամբիոնի ասպիրանտ

ԼԻԼԻԹ ՄԿՐՏՉՅԱՆ
ՀՊՏՀ կառավարման ամբիոնի ասպիրանտ

Ֆիսկալ ապակենտրոնացումը և մակրոտնտեսական կայունության գործոնները (ՀՀ օրինակով).– Հոդվածը նվիրված է ֆիսկալ ապակենտրոնացման և մակրոտնտեսական ցուցանիշների միջև առկա կապի բացահայտմանը: Հետազոտության շրջանակներում վերլուծել ենք ՀՀ ֆիսկալ ապակենտրոնացման ցուցանիշների ազդեցությունը մակրոտնտեսական կայունությունը բնութագրող ցուցանիշների վրա: Վերլուծություն իրականացրել է էկոնոմետրիկ մոդելավորման միջոցով, կազմվել են գծային ռեգրեսիոն մոդելներ «EViews» վիճակագրական համակարգչային ծրագրի միջո-

ցով: Որպես կախյալ փոփոխականներ դիտարկվել են մակրո-
տնտեսական կայունությունը բնութագրող ցուցանիշները, իսկ
որպես անկախ փոփոխականներ՝ ֆիսկալ ապակենտրոնաց-
ման ցուցանիշը: Արդյունքում պարզ է դարձել, որ մակրո-
տնտեսական որոշ ցուցանիշների վրա նշանակալի ազդեցու-
թյուն ունի ֆիսկալ ապակենտրոնացումը բնութագրող ցուցա-
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թյուն, LR մոդել:*

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***Фискальная децентрализация и факторы макроэко-
номической стабильности (на примере РА).–*** Статья
посвящена выявлению существующей связи между фискаль-
ной децентрализацией и макроэкономическими показателями.
В рамках исследования было проанализировано воздействие
показателей фискальной децентрализации РА на показатели,
характеризующие макроэкономическую стабильность. Анализ
проводился методом эконометрического моделирования, мо-
дели линейной регрессии составлялись с использованием ста-
тистической программы «EViews». Показатели, характеризую-
щие макроэкономическую стабильность, рассматривались как
зависимые переменные, а показатели, характеризующие фис-
кальную децентрализацию, как независимые переменные. В
результате было выявлено, что значительная часть показате-
лей, характеризующих фискальную децентрализацию, оказы-
вает существенное воздействие на некоторые макроэкономи-
ческие показатели.

Ключевые слова: *децентрализация, валовой внутренний про-
дукт, местное самоуправление, макроэкономическая стабиль-
ность, модель LR.*