The impact of Fiscal decentralization on regional development

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Abstract

Fiscal decentralization of power from the central to the local level in North Macedonia officially began on July 1st, 2005, and after 20 years there are some changes but in general more than 50% of LGSUs gets transfers from the central government financing were the institutions are located and not real competences for local services, the capital grants don't follow the municipal development, migration from rural area to urban is more and more evident, this mean that the system from start creates misbalanced financing of LGSUs. The main issue is fiscal decentralization and balanced regional development are closely related instruments and there is a need when making policies for one of these instruments of economic progress to take into account the both of them. RNM, on the one hand, does not have success in the balanced regional development, and on the other hand, there is a need expressed by the Government and other stakeholders for advancing of decentralization. So far, researches are prepared about balanced regional development and fiscal decentralization, but those researches are thematic and concern either regional development or decentralization separately as separate phenomena and do not go into the interactions and impact of fiscal decentralization on the balanced regional development in RNM. This analysis aims to fill that research gap because these phenomena in real life do not act separately from each other and certainly have mutual influence. This is important for policy makers to know that in the advancing of fiscal decentralization laws and policies, those policies and laws cannot separate these two instruments as separate instruments for achieving national goals. For RNM, in addition to the relatively high unbalanced in regional development, it is even more worrying that this, measured by the coefficient of variation of GDP per capita for the regions, is increasing in the period from 2011 to 2022.

Key words: fiscal decentralization, balanced regional development, GDP, inequality, local revenues, GINI coefficient

Jel classification: H70, H71, H72, H76, H77

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Introduction

This paper reviews knowledge on the causal relationship between fiscal decentralization and regional development in North Macedonia. The interest in fiscal decentralization as an engine for economic growth is not limited to developing and transitional economies, but has also emerged to the forefront of the policy agendas of most OECD countries. These broad-based policy agendas call for a closer examination of the potential relationship between fiscal decentralization and economic growth (Martínez-Vázquez J, McNab R, 2003). Particular attention is paid to the different channels through which decentralization can affect disparities: taxing powers, spending autonomy and the vertical fiscal imbalance. The empirical analysis, which is conducted on North Macedonia municipalities for the period 2011-2022. A balanced fiscal structure, where local spending is mainly financed by local taxation, reduces regional disparities, by providing an incentive to better use local resources and implement policies that favor economic development. (OECD report 2016).

Decentralization is also seen as a way to break the central government's grip on the economy by shifting fiscal authority to subnational governments.

Decentralization of power from the central to the local level officially began on July 1st, 2005, according to provisions of the Law on Local Self-Government, which was adopted in 2002. The financing of local government responsibilities is regulated by the Law on Financing of Local Self-Government Units, adopted in 2004, which also included the provisions for the phased aproach of fiscal decentralization reforms. From a functional perspective, North Macedonia has a highly decentralized public sector. Local self-government units (LSGUs) are responsible for maintaining and improving local infrastructure, water suply and wastewater treatment, waste management, public lighting, local public transport, providing services in primary and secondary education, local cultural institutions (cultural centres, libraries, museums), social protection (protection of children and protection of the elderly), firefighting, and they also manage state construction land. Local authorities are also responsible for preschool education, primary and secondary education and homes for the elderly.

At the same time, access to the capital market became more accessible based on more liberal and transparent conditions for borrowing, which increased the interest of municipalities in financing investment projects through borrowing. In this direction, the Government provided credit lines from international financial institutions (World Bank, EIB, KfW and EBRD) with which significant investments are implemented in: reconstruction and rehabilitation of local streets, roads and bridges, construction and reconstruction of water and atmospheric networks, improving public hygiene and raising energy efficiency in municipal public facilities and spatial local planning.

The Republic of North Macedonia, in terms of the level of decentralization according to the data on the realization of expenditures in 2022 (participation of about 5% in GDP), enters the group of countries that are moderately decentralized. Furthermore, compared to 2005, when the process of transfer of responsibilities and fiscal decentralization began, the revenues of the municipalities increased by more than six times (in 2005 realization of 5.9 billion denars, in 2021 over 39 billion denars). In the same period, the tax revenues on which the municipality has the autonomy of

collection increased by more than three times. Compared to the realized revenues of all municipalities in 2020, a growth of 9.63% is observed.

Table 1. Local revenues from period 2005-2022
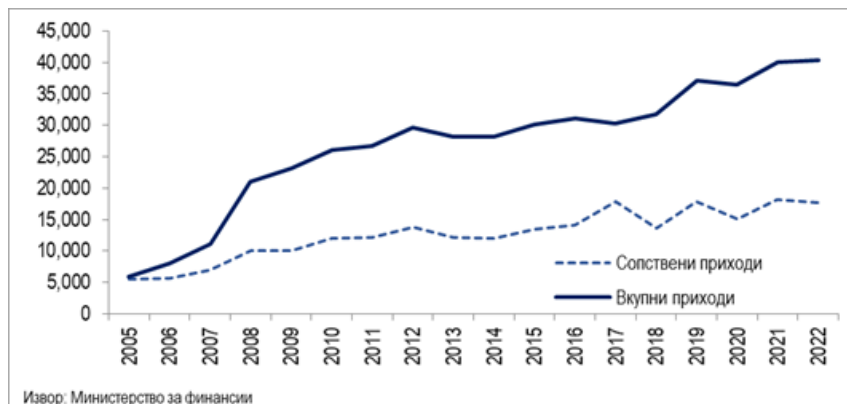
Source: MoF, Annual accounts of the State Budget

Therefore, in the research on the measurement of the balanced development of the regions, is follow similar researches from the EU that have both a theoretical and an empirical basis. For RNM, in addition to the relatively high unbalanced in regional development, it is even more worrying that this, measured by the coefficient of variation of GDP per capita for the regions, is increasing in the period from 2011 to 2022. The fact that although the RNM has an established strategic and normative framework and institutional setting, it does not ensure progress in terms of policy implementation and does not contribute to the effective reduction of disparities within and between planning regions and their respective demographic, economic, social and spatial cohesion is worrying. In addition, the weaknesses of the policies for balanced regional development, in addition to the non-compliance with the Law in terms of budget planning for 1% of GDP for balanced regional development, is the lack of capacity for the realization of financial resources, both by the Bureau for Regional Development and by the Centers for the Development of Planning Regions.

Empirical findings for RNM are that planning regions do not converge among themselves towards a stable long-term steady state. Explanatory endogenous factors for the (lack of) convergence of regions in RNM can be: the population density of LGUs within the regions, the share of urban LGUs in the total number of LGUs and the labor market activity of LGUs within the regions. The findings show, for example, that a higher density of LGUs in regions increases regional inequality by an average of 2%-7%. From our analysis, we conclude that more densely populated regions and those where the labor force is more active in the labor market have slower convergence. On the other hand, greater urbanization drives the economic growth of the regions.

Furthermore, the findings about the endogenous variables are that the less developed-secondary regions lag behind the development of the more developed-primary regions due to the effect of

migrations to urban centers and emigration. The magnetic attraction of the more-developed primary-regions (specific to the Skopje planning region) exacerbates the differences compared to the secondary-less-developed-regions. The effects of agglomeration draw people to the primary centers of productivity growth and higher earnings leaving the more underdeveloped secondary regions without factors of production and without potential. In that sense, the possibility of increasing the potential of secondary regions should be given a chance in order to increase their attractiveness and competitiveness.

In addition, the statistical significance of endogenous factors for the convergence of planning regions in RNM means that convergence is conditioned by endogenous factors for planning regions, so they do not converge to a long-term steady state characterized by a growth rate that depends only on exogenous variables such as the rates of technological progress, trust in institutions and the growth of the labor force, rather it clusters regions to converge towards different rates of long-term steady states and depend on the endogenous factors of the regions themselves apear. Namely, the concentration of capital, investments, human resources, technical infrastructure, social facilities and institutions especially in the city of Skopje violates and threatens the concept of polycentric development of the state, which was a starting assumption for balanced regional development in the state on the first place. This means that there is at least one cluster of secondary-less-developed-regions in which the primary Skopje planning region does not enter.

That is why it is necessary in the criteria for the allocation of funds from the central government (regardless of whether in the system of fiscal decentralization or in the system of balanced regional development) to take into account those LGUs that are in regions that have a lower population density and in which the workforce does not participate enough in the labor market and where the population is predominantly rural.

In the RNM, the same economic benefits cannot be expected from fiscal decentralization as in more developed economies, and therefore it should be designed in such a way as to take into account the relevant specifics of the country, the degree of development of democracy and good governance. Therefore, after more than 20 years, fiscal decentralization should be seen more as an instrument for achieving socioeconomic goals.

 Fiscal decentralization and the transfer of responsibilities may negatively affect the balanced development of the regions. There are certain categories such as economies of scale and externalities that lead to spillover effects from one LGU to other LGUs. For such competences, one should either aproach asymmetric decentralization or consider the transfer of competences to the planning regions. For example, the social risk of poverty, unemployment and other social risks, waste management would be better managed at the level of regions than by LGUs. Another example is the population density of LGUs where more densely populated LGUs may enjoy positive effects from economies of scale compared to LGUs similar in territory but with a smaller number of inhabitants within a planning region. Here, the measure of increasing the income of the population will not affect balanced development because those regions with fewer inhabitants per m2 in their LGUs have lower income perhaps simply due to lack of population and therefore have lower economic activity.

Furthermore, bearing in mind that RNM is a candidate country for EU membership, we also take into account the Treaty on the Functioning of the EU, more specifically Article 2 where the EU is promoted through economic, social and territorial cohesion. The measure by which EU measures the progress of cohesion is convergence, i.e., through the reduction of regional differences in the level of development in the EU measured as GDP per capita in relation to the average GDP per capita of the EU.

Fiscal data on the revenues of LSGUs in RNM are provided by the Treasury Office of the Ministry of Finance. The data on the regions are provided by the State Statistics Office (SSO). The other sources of data and information are based on other sources, analyses, documents and studies, and the Project for Strengthening Resource Mobilization Activity and publicly available information related to and connected to the research subject.

Measuring fiscal decentralization

Measuring of decentralization for the purposes of this research will focus more on the fiscal pillar rather than the political autonomy of LSGUs. However, we also discuss the effects of the local government political economy on the fiscal decentralization at a given moment, which can have an effect on the balanced regional development in the RNM.

In the fiscal decentralization section, we will measure the degree of decentralization of expenditures (EXP) and the decentralization degree of revenues (REV). Both measures are commonly used in the literature on decentralization[2].

However, we still need to clarify how these variables were calculated for the purposes of this research. Regarding expenditures, we only take those LSGUs' expenditures from the program presentation of expenditures for which we can assume with considerable certainty that LSGUs decide independently on the provision of services to the citizens: urban planning, local economic development and communal activities. Basically, we are more interested in the full devolution of decision-making than in the expenditures that occur due to transfers from the central government. In the income section, we take into account own revenues and shared personal income tax, but without the VAT transfers. Similarly, here we also want to take into consideration only those revenues that are at the discretion of the LSGU, but also the revenues from personal income which is collected based on origin, thus taking into account implicitly, as a proxy the potential for economic activity for the LSGU in the given region.

These two variables (EXP/REV) are taken in three variants: as nominal (EXP/REV), per capita (EXPOP/REVPOP) and as a share of the total revenues of the LSGU

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[2] Lessmann C. (2012): Regional inequality and decentralization - An empirical analysis; Document de treball de l'IEB 2012/20.

(EXPSH/REVSH). All three variants measure different phenomena. Nominal values are related to absolute levels of income and economic power of LSGUs. Per capita measures the relative levels normalized for the number of inhabitants as holders of economic activity but implicitly, they also include the effort of the LSGU to collect its own revenues. The third variant measures implicitly, through the collected revenues as a share of total revenues, the LSGU's effort in collecting its own revenues or the power and flexibility of the LSGU for independent decision-making through revenues and expenditures.

Based on the above, we take the budget realization of LSGU (BUDGREAL) as measures for institutional effects and good governance. We group all these variables by LSGUs in the respective regions.

The impact of fiscal decentralization on balanced regional development

According to Oates (1972)[3] and Tiebout (1956)[22], local governments should first reveal and then meet the needs for heterogeneous preferences of voters through local policies with the decentralization process because LSGUs as a government are closer to citizens than the central government and are better acquainted with citizens' needs. But apart from these expected benefits of decentralization, there are also potential negative redistributive consequences because unlimited decentralization can lead to concentration of resources in several geographical locations and thereby increase the differences of regions, which is also the case in the RNM (Martinez- Vazquez and McNab-2003)[4]. Also, according to Prud'homme (1995)[5], decentralization weakens the budgetary power of the central government, thus reducing the scope for redistribution of resources from richer to poorer regions, thereby increasing regional disparities. At the same time decentralization often involves fiscal competitiveness, which further puts weaker regions at a disadvantage.

Let's clarify this with a few examples. If the central government introduces policies to reduce the inequality in the regions, and at the same time takes the income inequality between the regions as a measurement indicator, in that case the regions which may be poorer than other regions but have smaller income inequality of the population within the same region will find themselves in an unfair position. This is because their measurement of inequality may be lower than the inequality in richer regions, so most resources will be directed towards richer regions simply because the income in richer regions is more unequally distributed. Thus, this measure is not only unfair but also inefficient and ineffective because in this case it favors the richer regions. Hence, the social risk of poverty

[3] Oates, W. E. (1972): Fiscal Federalism. New York: Harcourt Brace Jovanovich. [22] See more: Tiebout, C. M. (1956). A Pure Theory of Local Expenditures. Journal of Political Economy, 64(5).
[4] Martinez-Vazquez, J. and R. McNab (2003). Fiscal Decentralization and Economic Growth. World Development, 31(9), p. 1597{1616}.
[5] Prud'homme, R. (1995). The Dangers of Decentralization. World Bank Research Observer, 10(2).

and unemployment would be better managed at regional level rather than at the level of LSGUs. In this direction, it is necessary to think about "expansion of the transfer of competences"/deconcentration (or transfer of competences to the regional level) related to social work centers and regional units of the Employment Agency.

Furthermore, poor populations in low-income regions are poor for a reason because they may live in region(s) that offer fewer economic opportunities and may have weaker infrastructure and do not enjoy positive externalities from an agglomeration economy because the region is larger in area and /or due to other region-specific externalities. Hence, increasing the individual incomes of the population is not the same as increasing the potential for growth and development of the regions and/or appropriate addressing due to surface area and low population density. This would mean that the regions would need other policies instead of addressing population poverty because that would not solve the poverty problem. Also, the poverty degree may be a challenge with reference to its technically-measurable nature because there is a high degree of gray economy and non-reporting of turnover resulting in an overestimation of the parameters for relative poverty. There may also be "poor" regions due to an indicative low tax effort in some LSGUs.

Prud'homme (1995) argues that wealthier regions have a larger tax base than poorer regions and will therefore either collect more taxes and provide more local public services or provide the same quantity and quality of public goods with lower tax rates (for example, in the RNM tax competition between LSGUs in the area of property tax is not yet felt. Namely, although LSGUs have a range from which to choose the tax rate for this tax, in the period 2013-2021 only 5 to 7 LSGUs chose a higher tax rate of property tax[6]).

In any case, mobile production factors will prefer wealthier regions for their investments, further expanding the tax base of wealthier regions at the expense of poorer ones and further widening the inequality gap between regions. Let's take for instance the construction and prices of apartments in Skopje compared to other LSGUs in the RNM. For example, according to the RNM Cadaster Agency, the average construction price per m^2 for apartments in Skopje increased in 2023 compared to 2022 by 14%, but the average prices for apartments outside Skopje increased by only 9%. Furthermore, the average prices per m^2 of apartments in Skopje for the first three quarters of 2023 are 61 thousand denars, and in other LSGUs they are an average of 41 thousand denars[7]. Hence, the effect of voting with their feet of Tiebout (1956) as one of the benefits of decentralization cannot be observed for individuals in the RNM in terms of different tax rates to encourage LSGU competition, but it is observed in the mobile capital that invests in Skopje into construction of apartments,

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[6] Decision of the local councils
[7] Data from the Agency for Real Estate Cadaster:

so maybe Prud'homme (1995) is right when he says that decentralization can be the mother of segregation.

Other challenges of decentralization may relate to coordination problems, excessive regulation, higher administrative expenses or poor quality of local administration in developing countries (Tanzi, 1996)[8]. In addition to this, decentralization can increase corruption and cronyism in developing countries undermining decentralization's potential for higher efficiency (Lessmann 2012). Thus, many of the assumptions that positively link decentralization to lower regional inequality may be valid for highly developed countries but not for less developed countries such as the RNM.

Models for empirical analyses

The challenge for this analysis is the selection of apropriate data/indicators, but in our case not so much as a selection from the many indicators, but rather as the lack of data at regional level and of course from a statistical point of view due to the lack of sufficient observations per indicator. We use an analysis with a balanced panel of data for the period from 2013 to 2022 because for this period we have data for all variables. We base the specification of the models mostly on the research of Lessman (2012)[9] and Kuriacou et.al. (2013)[10].

> **Firstly**, we will estimate the model specification as in formula (1) to be able to evaluate the impact of decentralization measures on regional inequality:

$$Ineq_{i,t} = \alpha + \sum k_{j-1} \beta_j Control_{j,t} + \gamma Dec_{i,t} + \mu_t + \epsilon_{i,t} \quad (1)$$

> **Secondly**, we want to control whether the possible economic changes measured through GDP have an impact on the relationship between decentralization and balanced regional development and whether the proxy measure of good governance through budget implementation has an impact on the relationship between decentralization and balanced regional development[11]. This second specification of the panel model is presented in formula (2):

[8] Tanzi, V. (1996). Fiscal Federalism and Decentralization: A Review of Some Efficiency and Macroeconomic Aspects. In M. Bruno and B. Pleskovic (editors), Annual World Bank Conference on Economic Development, p. 539{567. Washington D.C.: World Bank.

[9] Lessmann C. (2012): Regional inequality and decentralization - An empirical analysis; Document de treball de l'IEB 2012/20

[10] Kyriacou et.al. (2013): Fiscal decentralization and regional disparities: The importance of good governance; Papers on regional science, Vol. 94, 1; doi:10.1111/pirs.12061

[11] ibid

$$Ineq_{i,t} = \alpha + \sum kj-1\ \beta jControl_{j,t} + \gamma 1Dec_{i,t} +$$
$$\gamma 2Dec_{i,t}GDPPOP_{i,t} + \gamma 3Dec_{i,t}BUDGEREAL_{i,t} + \mu t + \epsilon_{i,t}\quad (2)$$

The panel in formula (1) is like the panel in formula (2) in that we add GDP per capita (**GDPOP**), as well as budget realization per LSGU summarized by region (**BUDGREAL**) to control for the impact of economic change and good governance between fiscal decentralization and regional development inequality. DEC-is the measure of fiscal decentralization=**REV** or **EXP**.

In the section of control variables (the matrix of Control variables) we control for the following endogenous factors: the relative area of the regions through the population density (**GUS**); the labor market effect through the labor market participation rate instead of the unemployment rate (due to the gray economy effect, the activity rate is a more realistic aproximation for the labor market-**LAB**); the effect of ethnic fragmentation (**ETF**) and the effect of urbanization through the number of urban/rural LSGUs in the regions (**URRU**).

Empirical analyses results

With the model we want to evaluate the impact of fiscal decentralization on the balanced regional development in the RNM. The results of the estimation are presented in the following Table 2. The estimation is presented for that dependent variable for which the measure of decentralization is statistically significant. This table presents the findings for the **REVPOP** (revenue per capita) and **EXP** (expenditure) measures of fiscal decentralization.

Table 2. Estimation of decentralization effect for planning regions in the RNM with panel specification

Dependent variable According to Equation (7), the estimation for the control variables are also presented- Control: GUS; LAB; ETF; URRU	CV	WCV
α	-1.212*** (-2.031)	-2.977**** (-2.462)
TIME	0.006**** (3.312)	0.006*** (2.014)
GUS	0.012 (0.344)	0.089 (1.361)
LAB	0.097 (0.718)	0.200 (0.854)

ETF	**0.003**	**-0.003**
	(0.167)	**(-0.100)**
URRU	**0.005**	**0.009**
	(0.231)	**(0.233)**
EXP		
		0.053
		(1.361)
REVPOP	**-0.040****	
	(-1.773)	

Note: t-statistics are in parentheses. ****, ***, **, and * indicate statistical significance at 1%, 5%, 10%, and 15% level of significance respectively.

It is evident from the table that the empirical results show that per capita income statistically explains the inequality of planning regions measured as a coefficient of variation. The effect is such that a 1% increase in income per capita in the LSGU is correlated with up to a 4% reduction in inequality in the regions. In other words, those regions where LSGUs have higher revenues on average affect the reduction of the inequality in the development of the planning regions measured as the coefficient of variation of GDP per capita. So, the factor of own collected revenues, including the economic activity measured through the collected personal income tax have a positive influence for the reduction of inequality in the regions.

Other endogenous factors are not statistically significant, except for the time which shows that inequality grows over time. Regarding expenditures, they show statistical significance at the 20% level for the weighted coefficient of variation measure. This points to the fact that if balanced development is reached with expenditure measures then one must take into account the impact of population size in regions when measuring inequality (because it is significant for the weighted coefficient of variation).

From a statistical point, the correlation coefficient for both evaluations is small, which indicates that perhaps other endogenous independent variables should be taken into account in the specification of the model which may influence regional inequality. Therefore, further on we take into account GDP per capita (**GDPOP**), as well as budget realization per LSGU summarized by region (**BUDGREAL**) to control for the impact of economic changes and good governance between fiscal decentralization and the balanced development of the regions according to the above discussion.

Panel specification with control for the effect of economic changes across regions and with control for the effect of LSGU good governance across regions

With the second model from Equation-2, we want to control whether the possible economic changes measured through GDP per capita as well as the good governance measured through budget realization per LSGU have an impact on the relationship between decentralization and balanced regional development**.**

The results of the estimation are presented in the following table. The estimates are presented for each dependent variable as a measure of inequality i.e. the Sigma-convergence measures: coefficient of variation-**CV**, weighted coefficient of variation-**WCV** and GINI coefficient-**GINI**, depending on the measure of fiscal decentralization-**REV** (own revenues); **REVPOP** (own revenues per capita) and **REVSH** (share of own revenues in total revenues)[12].

Table 3. Estimation of the impact of fiscal decentralization (measured through **REV**-revenues) on balanced regional development

	CVREV	CVREVPOP	CVREVSH	WCVREV	WCVREVPOP	WCVREVSH	GINIREV	GINIREVPOP	GINIREVSH
α	-1.346**** (-4.501)	-1.248**** (-4.161)	-1.412**** (-5.017)	-0.756 (-1.014)	-0.614 (-0.813)	-0.663 (-0.906)	-2.200**** (-4.542)	-2.209**** (-4.464)	-1.986**** (-4.273)
TIME	0.001 (0.667)	0.001 (0.571)	-0.001 (-0.373)	-0.023**** (-7.293)	-0.022**** (-7.393)	-0.021**** (-6.775)	-0.007**** (-3.704)	-0.008**** (-3.726)	-0.006**** (-2.952)
REV	-0.070**** (-4.388)	-0.200**** (-4.825)	1.019**** (5.041)	-0.126*** (-2.184)	-0.368**** (-3.539)	1.596**** (3.038)	-0.076**** (-2.940)	-0.194**** (-2.849)	0.934**** (2.801)
GDPOP	0.002*** (2.093)	0.006**** (2.937)	0.037**** (5.041)	0.004*** (2.232)	0.014*** (2.551)	-0.058** (-1.690)	0.002** (1.731)	0.006** (1.633)	-0.019 (0.892)
BUDGREAL	0.008**** (7.148)	0.021**** (7.406)	-0.134**** (-7.694)	0.014**** (4.865)	0.036**** (5.033)	-0.197**** (-4.354)	0.011**** (5.867)	0.027**** (5.715)	-0.152**** (-5.293)
GUS	0.036*** (2.305)	0.033*** (2.214)	0.031*** (2.051)	0.070** (1.783)	0.070** (1.856)	0.053 (1.352)	0.050** (1.965)	0.052*** (2.088)	0.033 (1.350)
LAB	0.109* (1.621)	0.076 (1.241)	0.058 (0.963)	0.116 (0.691)	0.100 (0.644)	0.048 (0.309)	0.115 (1.051)	0.119 (1.175)	0.073 (0.733)
ETF	-0.006 (-0.761)	-0.003 (-0.412)	-0.003 (-0.352)	-0.005 (-0.249)	-0.001 (-0.003)	-0.009 (-0.439)	-0.012 (-0.895)	-0.011 (-0.780)	-0.016 (-1.239)

URRU -0.032**** -0.021*** -0.029**** -0.050** -0.037* -0.046** -0.036*** -0.033*** -0.035**** (-2.996) (-2.149) (-2.995) (-1.862) (-1.528) (-1.810) (-2.051) (-2.067) (-2.182)

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[12] State statistical office, Regions in RNM 2023

Several things can be concluded from the Table:

- All decentralization measures: **REV** (own revenues); **REVPOP** (own revenues per capita) and **REVSH** (share of own revenues in total revenues) have a statistically significant impact on regional inequality measured by GDP per capita.
- On average, when we control for population in regions (weighted coefficient of variation), the impact of income is higher on regional inequality. The impact is in the range of:
  - 1% increased revenues at LSGUs are correlated with 7% to 7.6% reduction in regional inequality (CV or GINI) but if we take into account the number of population in the regions, then the impact per capita can be higher and up to 12.6 % in reducing the inequality of GDP per capita for the planning regions. This is an indication that population size is significant for the reduction of inequality in regions. Emigration and the attractiveness of secondary regions for their inhabitants is important in order to remain a productive economic factor in those secondary regions.

For the decentralization measure - revenues per capita (REVPOP), the impact is higher which indicates that the inequality of the regions is correlated with a double-digit percentage reduction if LSGUs have a higher effort to collect their own revenues per capita. Shared taxes from personal income tax are included here in own revenues, which indicates that higher economic activity of the labor force in LSGUs can lead to lower inequality in the regions. On the other hand, an increase in the share of LSGUs' own revenues in their total revenues is correlated with increased inequality of the regions. This means that the lower economic power in the LSGUs themselves reflects the economic reality of the less developed regions, because even if the effort to collect own revenues in the LSGUs increases, then the inequality in the regions would increase too due to the fact that the economic activity of the population is either lower or the potentials of that less developed region have been exhausted. In that case, the role of the central government is to sustainably influence the less developed regions through the instruments for regional development, to increase their economic potential rather than to solve the challenge with instruments for reduction of poverty, for example.

The recommendation from what has been stated so far is that when designing fiscal decentralization, the reality of LSGUs within the planning regions should be taken into consideration. In that sense, the economic power of the region has a strong effect that exceeds the effect of a greater effort to collect own revenues at LSGUs in some regions. Collection of own revenues with a higher tax effort for each LSGU is of course a preferred

solution, but the central government should take into account the reality related to the LSGU's tax base in the region when considering the degree of development of the regions according to which it will distribute the means for balanced regional development. In other words, the collection of own revenues by LSGUs is a good indicator on how much revenues can be expected from the tax base, but it is also an indicator of the level of the limited economic potential of poorer regions where there is a relatively higher tax effort at LSGUs. In that case, the central government should work on increasing the economic potential of the less developed regions so that they can converge to the steady state of the more developed regions.

Furthermore, it is interesting to see the statistical significance of the time dynamics of the inequalities of the regions. Namely, if we nominally follow the dynamics of the Sigma convergence i.e. the inequality through the coefficient of variation, time is not statistically significant but if we weight the measure and control for the number of population (weighted coefficient of variation), then it becomes evident that the decreased number of population increases the degree of inequality in the regions, but not only with the weighted coefficient of variation, but also with the GINI coefficient (which coefficient has no measurement unit, so the influence of the number of population has a low degree of possible multicollinearity in the independent variables with the population). At the same time, for each approximately 1% decrease in population, the inequality in the regions measured through the weighted coefficient of variation increases by approximately 2% or by approximately 0.7% measured through the GINI coefficient. In other words, a decrease in the number of inhabitants by 1% leads on average to 2% increased inequality in the planning regions in the RNM.

If we control for economic changes measured through GDP per capita (GDPOP) we will see that this factor is statistically significant in all specifications. The effect is such that higher GDP per capita leads to an increase in the inequality of the development of regions measured by the three Sigma-coefficients. This is another signal for the central government that the focus on average economic growth does not lead to absolute Beta-convergence but to conditional convergence where the endogenous factors for the regions have the influence on the regions that are clustering to converge towards different steady states[13]. In that direction, the recommendation for the central government is to focus on raising the potential for economic growth in less developed regions. Even to consider the transfer of funds from the more developed to the less developed regions either through Robin Hood models or by leaving out the more developed regions for a certain period of time until the absolute convergence of the planning regions in the RNM is achieved.

If we control for the effect of good management measured through budget implementation at LSGUs, we will see that this factor is statistically significant in all specifications. The effect is such that a higher budget realization in LSGUs is correlated with an increase in the degree of inequality. This finding must be seen from at least three aspects. Firstly, the budget realization here is of the total revenues of LSGUs, which on average have low fiscal autonomy in the RNM, so the impact of transfers is such that they may influence the

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[13]See more CEA (Analysis of disparities between the countries of the Western Balkans Cluster analysis).

increase of inequality in the regions (in fact, the block grants from the fiscal decentralization are designed in such a way that they finance existing facilities rather than service development). Secondly, those primary regions where the LSGUs have sufficient economic power leave behind the secondary regions where the LSGUs have less attractive economic apeal. Thirdly, in the context of the findings above, the budget realization has limited power to be correlated with higher development because the effect of the economic attractiveness of the regions has a higher negative effect than the possibility of a positive effect, even with full budget realization of the LSGUs because the secondary regions have a lower economic potential.

- Regarding the endogenous variables, we conclude:
  o Density (GUS) is statistically significant. Higher regional density affects an average increase in inequality of 2%-7% (depending on the Sigma measure and the measure of decentralization) for every one percent increase in density. This means that the concentration of population, and especially the gravitational power of the Skopje Planning Region leaves other regions without the production factor of human capital aside from the effect of emigration of the population outside the country[14].
  o Labor force activity (LAB) has no statistical significance except when measuring the degree of convergence for collected revenues (REV) at 15% statistical significance. The impact is such that a higher economic activity of the labor force affects the increase of the inequality of the regions. And this effect should be considered in the context of what has been said so far that the economic activity is higher in the primary regions where the gravitational power is higher and they leave the less developed secondary regions behind[15].
  o Ethnic fragmentation (ETF) does not have a statistically significant impact in explaining regional inequality.
  o The share of urban LSGUs in the total number of LSGUs in planning regions (URRU) has a statistically significant impact. A greater share of urban LSGUs in regions leads to greater inequality in planning regions. And this effect should be considered in the context of what has been said so far that economic activity is higher in primary regions where the gravitational power is higher, there are effects of agglomeration through population density and they leave less developed secondary regions behind[16].
  o The findings for the endogenous variables are that the less developed secondary regions are left behind in the development by the more

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[15] Ibid.
[16] Ibid.

developed primary regions due to the effect of migrations to urban centers. The magnetic attraction of the more developed regions (specific to the Skopje Planning Region) enhances the differences compared to the secondary less developed regions. The effects of agglomeration draw people to these centers of productivity growth and higher earnings, leaving the less developed regions without factors of production and without potential.

- o In that sense, an opportunity should be given to increase the potentials of secondary regions in order to increase their attractiveness and competitiveness.

Despite the lack of results in achieving balanced regional development, so far there is no analysis for the RNM that more systematically investigates the impact of fiscal decentralization on balanced regional development. One of the reasons for the lack of quantitative research is the poor availability of data per LSGU and by regions, which are necessary for research and analysis. The results of international research indicate that richer countries benefit from decentralization in terms of a more even distribution of income, while decentralization can lead to higher regional inequalities in developing countries. The results of those researches have the same findings both for fiscal and political decentralization measures, which implies that when "further" decentralization is encouraged in the RNM, the potential negative effect should be taken into account for more balanced development.

In the RNM both fiscal decentralization and balanced regional development are constitutional categories. So, although it is not the subject of this analysis, a distinction should be made when talking about the expansion of decentralization which may imply both political and administrative decentralization, but may also include transfer of responsibilities to the planning regions (for which there should also be constitutional amendments) and when talking about the transfer of institutions to LSGUs within the already transferred competences. The transfer of institutions within the existing transferred competences to LGUs accepts the existing organization of the state and refers to the transfer of institutions that are mostly already defined within the framework of competences with the Law on local self-government (or minimal changes are required in the legislation). This does not involve the political and administrative decentralization and/or transfer of competences to the planning regions that might occur. An example of this is the transferred competences in culture to the LGUs, where the transfer of libraries as institutions from central to local authorities is ongoing. In this document, as a result of the analysis of the impact of fiscal decentralization and the documents from the MLSG, certain recommendations are provided for the possible transfer of responsibilities to the planning regions.

Conclusions

In North Macedonia, a 1% decrease in the number of inhabitants in the region leads on average to a 2% increase in inequality in the planning regions (measured as the weighted coefficient of variation or as the GINI coefficient).

•   1% increased revenues at LGUs are correlated with a 7% to 7.6% reduction in regional inequality, but if we also take into account the number of population in the regions, then the impact, per capita, can be up to 12.6% in reducing inequality of GDP per capita for planning regions. So demographic trends have high effects in the evenness of development in the regions.

•   An increase in the share of LGUs' own revenues in their total revenues is correlated with increased regional inequality. This means that the lower economic power in the LGUs themselves reflects the economic reality of the less developed regions, because even if the effort to collect own revenues in the LGUs increases, then the inequality in the regions would increase due to the fact that the economic activity of the population is either lower or on average, the potentials of that less developed region are exhausted, i.e., no matter how much they increase the effort to collect revenues, LGUs in those regions would still lag behind the more developed regions due to the low potentials for economic activity. In that case, the role of the central government is, through the instruments of regional development, to sustainably influence the less developed regions to increase their economic potential rather than to solve the challenge with instruments for reducing poverty, for example.

•   In other words, the collection of own revenues by LGUs is a good indicator of how far revenue can be expected from the tax base for the local government, but it is also implicitly an indicator of the level of the limited economic potential of the poorer regions where there is a relatively higher tax effort among LGU. In that case, the central government should work on increasing the economic potential of the less developed regions so that they can converge towards the long-term steady state of the more developed regions.

•   If we measure good governance through the budget implementation at LGUs (realized revenues compared to planned revenues), the effect is such that a higher budget implementation at LGUs is correlated with an increase in the degree of inequality in the regions. This finding must be seen from at least three aspects. First, the budget realization here is of the total revenues of LGUs, which on average in RNM have low fiscal autonomy, so the impact of transfers is such that they may influence the increase of inequality in the regions (in fact, the block grants from fiscal decentralization are designed in that way to finance existing facilities rather than service development of the transferred competency). Second, those primary regions where LGUs have sufficient economic power leave behind those secondary regions where LGUs have less attractive economic potential. Third, in the context of the findings from above, budget implementation has limited power to be correlated with higher development because the effect of the economic (non)attractiveness of less developed regions has a higher negative effect than the possibility of a positive effect even with full budget implementation of LGUs because secondary regions have lower economic potential. Therefore, the focus of the government policies should be more towards the economic development of the regions than towards the economic growth of the regions.

References

[1] Akai N, Sakata M, 2002, "Fiscal decentralization contributes to economic growth: Evidence from state-level cross-section data for the United States" Journal of Urban Economics, p. 93–108

[2] Arellano M, 1987, "Computing robust standard errors for within-group estimators" Oxford Bulletin of Economics and Statistics, p. 431–434

[3] Baltagi B H, 1995 Econometric Analysis of Panel Data (John Wiley, Chichester, Sussex)

[4] Barro R, Sala-i-Martin X, 1991, "Convergence across states and regions" Brooking Papers on Economic Activity, p. 107–182

[5] Barro R, Sala-i-Martin X, 1995 Economic Growth (McGraw-Hill, New York)

[6] Bilbao-Osorio B, Rodríguez-Pose A, 2004, "From R & D to innovation and economic growth in the EU" Growth and Change, p. 434–455

[7] CEA 2023 (Analysis of disparities between the countries of the Western Balkans Cluster analysis).

[8] Cheshire P C, Carbonaro G, 1996, "Urban economic growth in Europe: Testing theory and policy prescriptions" Urban Studies, p.1111–1128

[9] Cowell F, 1995 Measuring Inequality 2nd edition (Prentice Hall, London)

[10] Davies S, Hallet M, 2002, "Interactions between national and regional development", HWWA discussion paper, Hamburg Institute of International Economics, Hamburg

[11] Davoodi H, Zou H, 1998, "Fiscal decentralization and economic growth: A cross country study" Journal of Urban Economics, p. 244–257

[12] Dillinger W, 1994, "Decentralization and its implications for urban service delivery" DP 16, Urban Management Program, World Bank, Washington, DC

[13] Dillinger W, 2002, "Brazil: Issues on fiscal federalism", Report 22523-BR, Brazil Country Management Unit, World Bank, Washington, DC

[14] Ebel R D, Yilmaz S, 2002, "On the measurement and impact of fiscal decentralization", Policy Research WP 2809, World Bank, Washington, DC

[15] European Commission, 1999 Sixth Periodic Report on the Social and Economic Situation of the Regions in the European Union (European Commission, Brussels)

[16] European Commission, 2004 Third Report on Economic and Social Cohesion (European Commission, Brussels)

[17] Ezcurra R, Gil C, Pascual P, Rapún M, 2005, "Inequality, polarisation and regional mobility in the European Union" Urban Studies, p. 1057–1076

[18] Fujita M, Thisse J F, 2002 Economics of Agglomeration (Cambridge University Press, Cambridge)

[19] Gil C, Pascual P, Rapún M, 2004, "Regional economic disparities and decentralization" Urban Studies, p.71–94

[20] Jin J, Zou H, 2002, "How does fiscal decentralization affect aggregate, national, and subnational government size?" Journal of Urban Economics, p. 270–293

[21] Kanbur R, Zhang X, 2005, "Fifty years of regional inequality in China: A journey through central planning, reform, and openness" Review of Development Economics, p. 87–106

[22] Kelejian H, Robinson D, 1997, "Infrastructure productivity estimation and its underlying econometric specification: A sensitivity analysis" Papers in Regional Science, p.115–131

[23] Krugman P, 1991 Geography and Trade (MIT Press, Cambridge, MA)

[24] Krugman P, 1998, "What's new about the new economic geography?" Oxford Review of Economic Policy

[25] Kyriacou et.al. (2013): Fiscal decentralization and regional disparities: The importance of good governance; Papers on regional science, Vol. 94, 1; doi:10.1111/pirs.12061

[26] Kuznets S, 1955, "Economic growth and income inequality" American Economic Review, p. 1–28

[27] Lessmann C. (2012): Regional inequality and decentralization - An empirical analysis; Document de treball de l'IEB 2012/20

[28] Law on financing local self-Government, Official Gazette OF RNM (nr.61//04, 96/04,.22/07,67/07, 156/09,47/11,192/15,244/19, 53/2,77/21, 150/21 and nr.173/22).

[29] Law on Balanced Regional Development. Official Gazette of NRM (24/2021)

[30] Law on Local Self-Government. Official Gazette of NRM (5/2002)

[31] López-Bazo E, 2003, "Growth and convergence across economies: The experience of the European regions", in Regional Economic Growth, SMEs and the Wider Europe

[32] López-Bazo E, Vayá E, Artis A, 2004, "Regional externalities and growth: Evidence from European regions" Journal of Regional Science, p. 43–73

[33] McKinnon R, 1995, "Intergovernmental competition in Europe with and without a common currency" Journal of Policy Modeling, p. 463–478

[34] McKinnon R, 1997, "Market-preserving fiscal federalism in the American Monetary Union", in Macroeconomic Dimensions of Public Finance: Essays in Honour of Vito Tanzi Eds Blejer M, Ter-Minassian T (Routledge, London), p. 73–93

[35] Magrini S, 2004, "Regional (di)convergence", in Handbook of Urban and Regional Economics, volume IV Eds Henderson V, Thisse J (North-Holland, Amsterdam), p. 2741–2796

[36] Martínez-Vázquez J, McNab R, 2003, "Fiscal decentralization and economic growth" World Development, p. 1597–1616

[37] Ministry of finance (Annual accounts of the State Budget 2005-2022), www.finance.gov.mk

[38] Oates W, 1972 Fiscal Federalism (Harcourt Brace Jovanovich, New York)

[39] Oates W, 1985, "Searching for Leviathan: An empirical analysis" American Economic Review, p 748–757

[40] Oates W, 1993, "Fiscal decentralization and economic development" National Tax Journal XLVI p. 237–243

[41] Oates W, 1999, "An essay on fiscal federalism" Journal of Economic Literature, p.120-149

[42] Paci R, 1997, "More similar and less equal: Economic growth in the European regions" Weltwirtschaftliches Archiv, p. 609–634

[43] Petrakos G, Rodríguez-Pose A, Rovolis A, 2005, "Growth, integration, and regional disparities in the European Union" Environment and Planning A, p.1837–1855

[44] Prud'homme R, 1995, "On the dangers of decentralization", Policy Research WP 1252, World Bank, Washington, DC

[45] Puga D, 2002, "European regional policies in light of recent location theories" Journal of Economic Geography, p. 373–406

[46] Qian Y, Weingast B, 1997, "Federalism as a commitment to preserving market incentives" Journal of Economic Perspectives, p. 83–92

[47] Quah D, 1996, "Regional convergence clusters across Europe" European Economic Review, p. 951–958

[48] State Audit Office (2022): "Final performance audit report: Balanced regional development with special emphasis on demography"

[49] State statistical office, Regions in RNM 2023

[50] Tanzi, V. (1996). Fiscal Federalism and Decentralization: A Review of Some Efficiency and Macroeconomic Aspects. In M. Bruno and B. Pleskovic (editors), Annual World Bank Conference on Economic Development, p. 539{567. Washington D.C.: World Bank.

[51] USAID (2024) Project for Strengthening Resource Mobilization Activity